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Harvard Medical School



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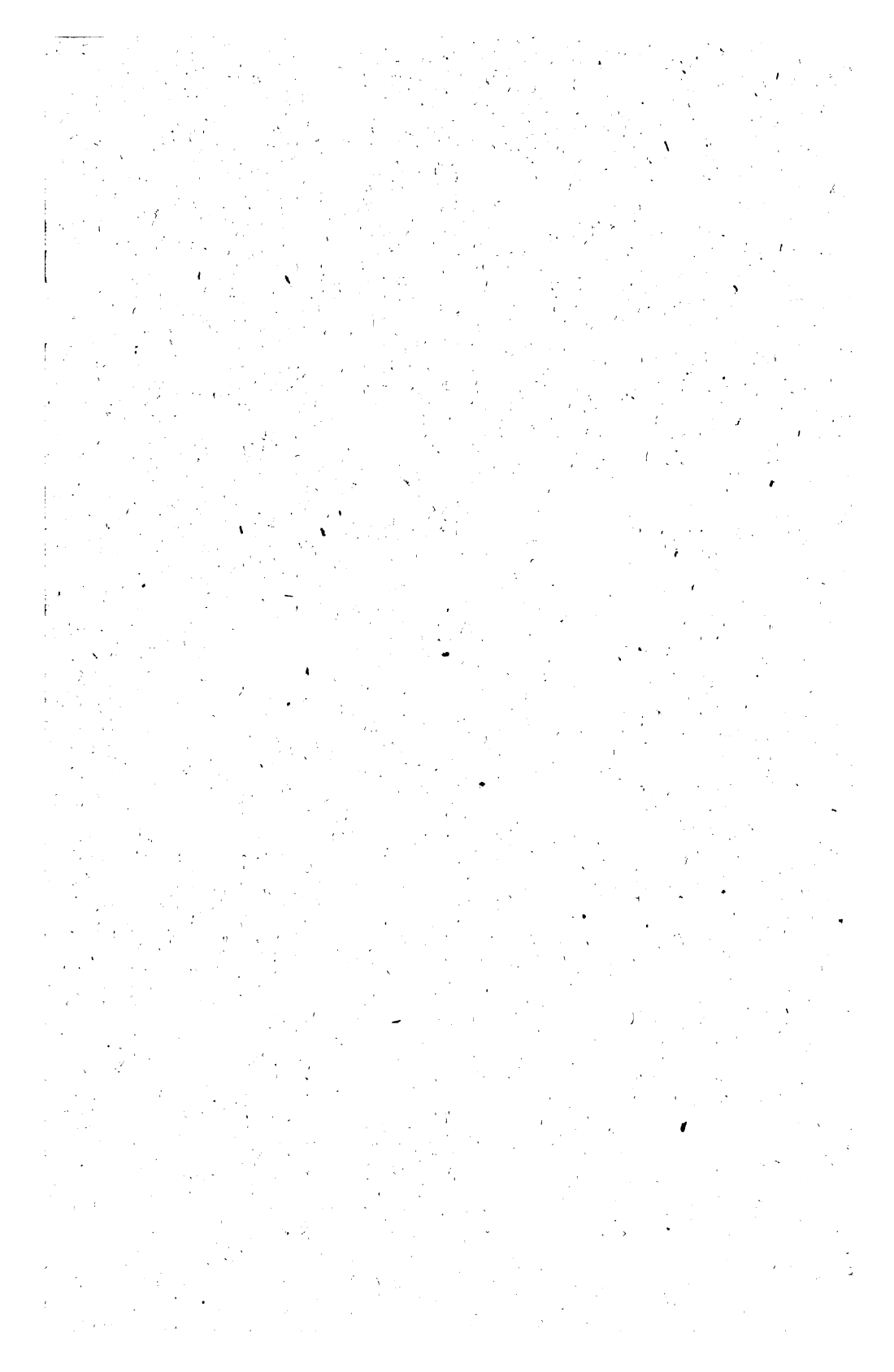
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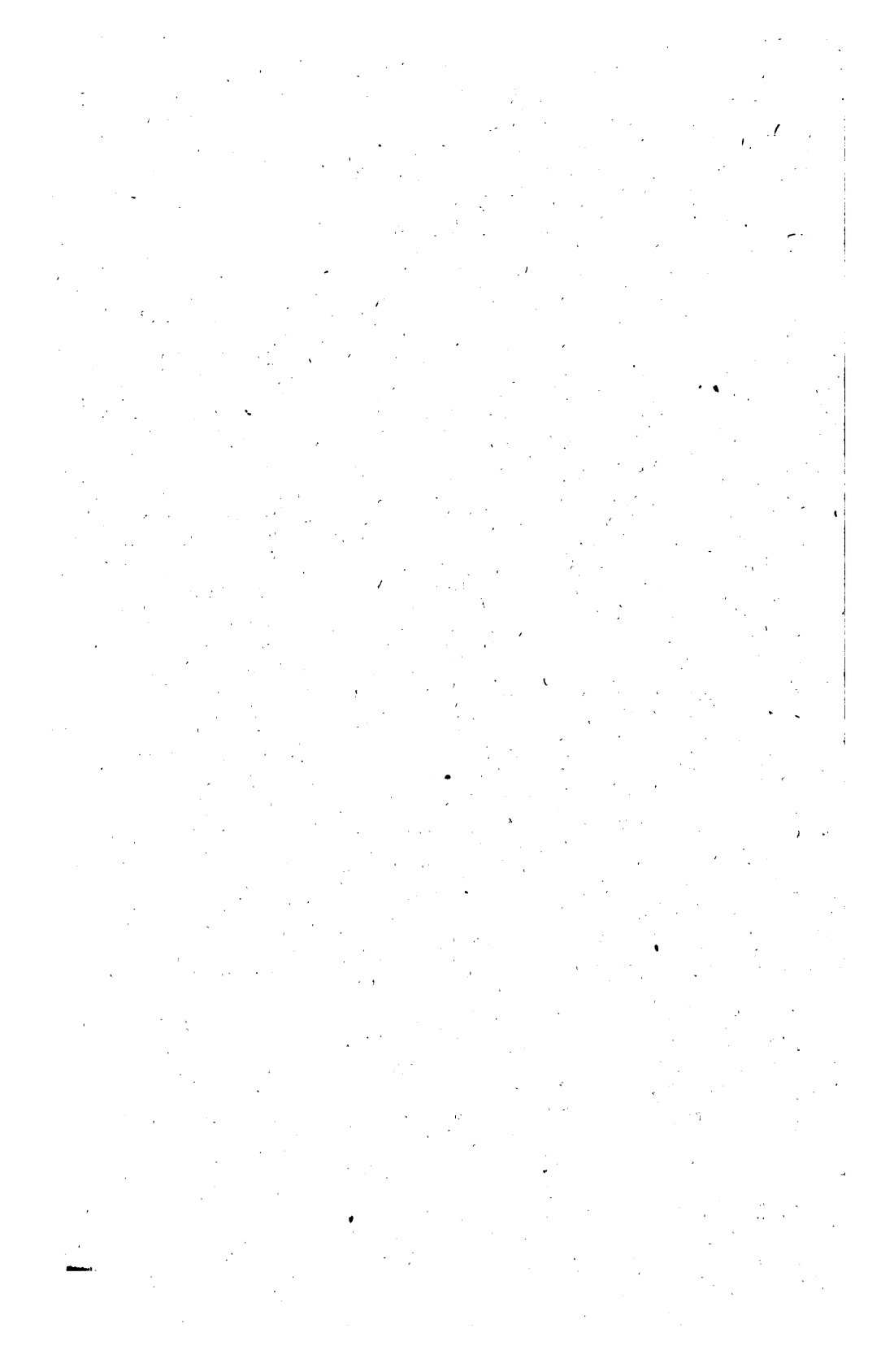
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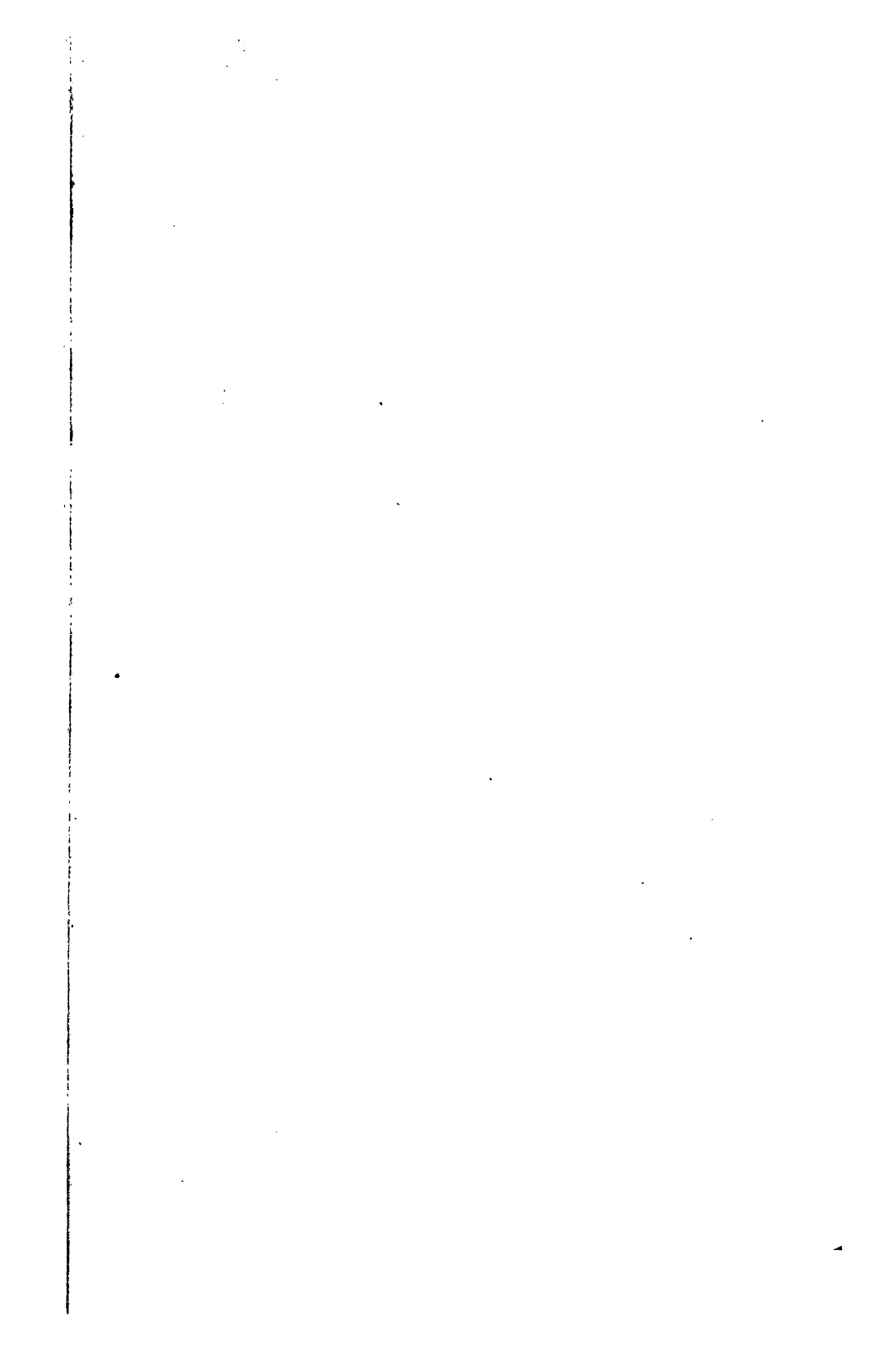
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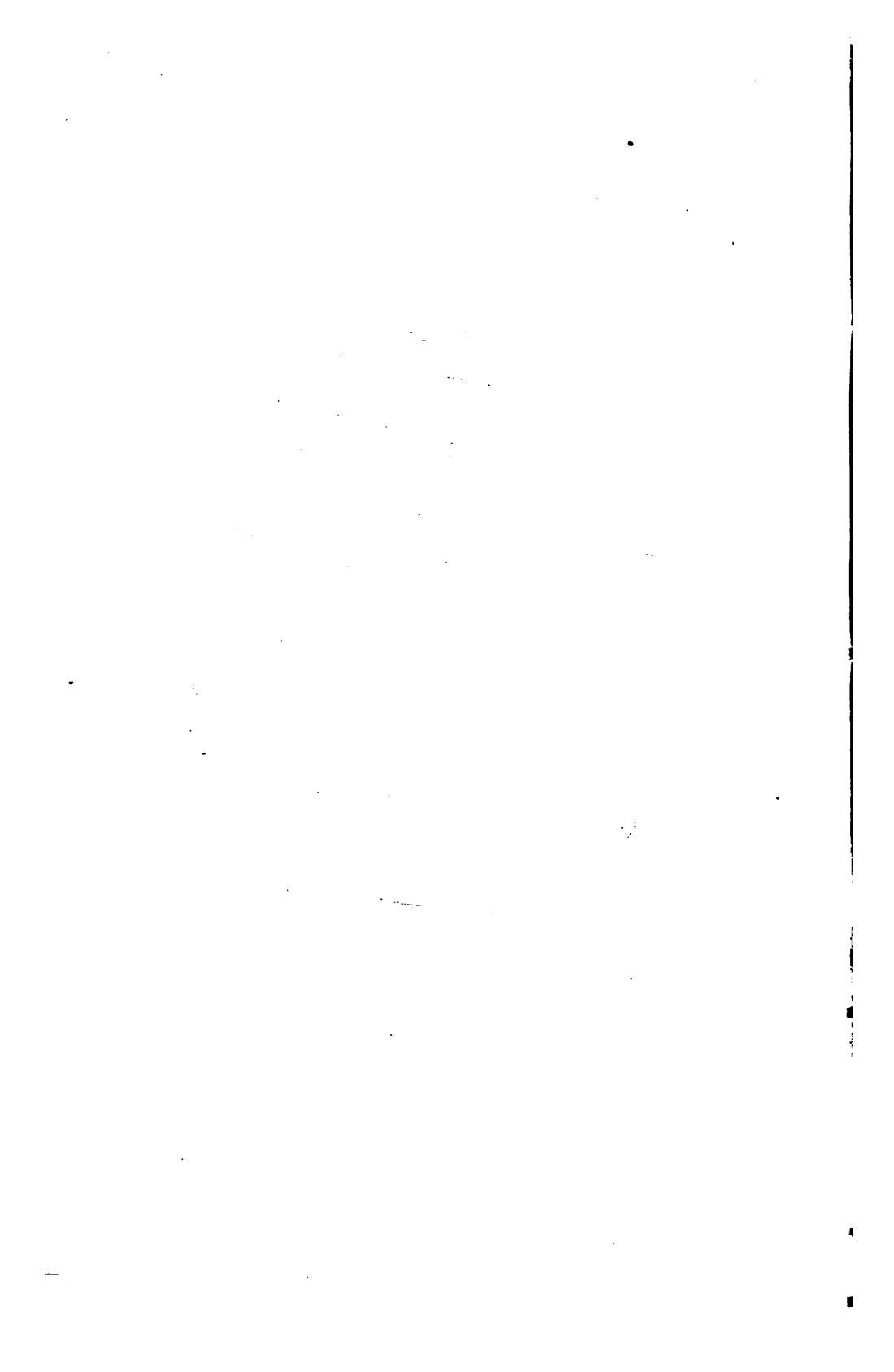








1902.



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(Being Supplement to Vol. XXIII. of Transactions.)

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The Institute is not responsible for the facts and opinions advanced
in the Addresses, Papers, and Articles published in the Journal.

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SUPPLEMENT TO THE
JOURNAL
OF
THE SANITARY INSTITUTE.

ANNUAL REPORT OF THE COUNCIL
FOR THE YEAR 1901.

Read at the Ordinary General Meeting, March 19th, 1902.

INTRODUCTION.

One of the most important features in the work of the year has been the extension of the operations of the Institute to other parts of the Empire. The 2,500 members of the Institute are widely distributed over the world, definite centres for carrying out the objects of the Institute have been established in the Dominion of Canada, and in New South Wales, Queensland, Victoria, and Western Australia in the Commonwealth of Australia, and negotiations are in progress with other parts of the Empire. The subject is referred to in more detail under the head of Examinations.

ADDRESS TO THE THRONE.

A loyal and dutiful address was presented to His Majesty the King on the occasion of the death of the late Most Gracious Queen Victoria. The address referred to the interest which the late beloved Queen specially showed in the adoption and development of measures for the improvement of the health of the people, and the conditions under which they, especially the poorer classes of them, live.

The address was signed by His Royal Highness the Duke of Cambridge on behalf of the Institute.

A copy of the Address is printed in the Supplement to Part I. of the Journal.

ASSOCIATED WORK.

The important subject of Tuberculosis was brought prominently forward at a large Congress organised by the National Association

for the Prevention of Consumption, held in London, in July, under the patronage of H.M. the King, and an invitation was issued to the members to visit the Parkes Museum; this invitation was responded to by about 300 Members of the Congress, including a number of well-known sanitarians from abroad. A short epitome of the work of the Congress is given in the Supplement to Vol. XXII. of the Journal.

The newly-established section of the British Association—on Education—appointed a Special Committee on “the Conditions of Health Essential to the carrying on the work of Instruction in Schools,” to which Committee The Sanitary Institute have appointed a delegate, and also given certain facilities to them for carrying out a work so cognate to the objects of the Institute.

CONFERENCE ON WATER SUPPLIES AND RIVER POLLUTION.

The question of Water Supplies and River Pollution being of much importance to both Urban and Rural Sanitary Authorities at the present time, the Council arranged for a two days' Conference on these subjects. It was held in London, in October last, and was well attended, among those who took part in it being delegates nominated by 137 County Councils, County Boroughs, and Sanitary Authorities.

The subjects discussed included: Sources of Supply and Watershed Areas, Storage, Town and Village Supplies, Filtration, Purification and Sterilisation, Distribution Appliances (Filters, Taps, Cisterns, &c.) and Prevention of River Pollution.

Visits were arranged during the Conference to the New River Company's testing shops, to the East London Waterworks, and to the Staines Reservoirs.

In connection with the Conference an Exhibition of Models and improved Appliances used in the Distribution and Purification of Water was arranged in St. Andrew's Hall and three Silver and eight Bronze Medals were awarded.

A full report of the Conference is given in the Journal.

The following resolutions were passed at the meeting, and have been considered by the Council of the Institute, the action taken being noted after each resolution:—

1. "That in the opinion of this Conference the purity of the Water Supplies throughout the country can only be effectively secured by placing such supplies in the hands of representative bodies directly responsible to the consumers."

The Council express no opinion upon this Resolution.

2. "That in the interests of the kingdom at large it is absolutely necessary that the County Councils should have large powers of supervision and control in respect of the question of Water Supply in their respective areas."

The Council consider that this Resolution is unnecessary, as County Councils already have large powers of supervision and control, especially with regard to the formation of Joint Committees under Section 14 of the Local Government Act of 1888, of which powers they have not generally availed themselves. Nevertheless the Council are of opinion that extended powers in certain respects, such as power of entry, should be given to the County Councils and their Committees pending the creation of a separate Commission or New Department of the Local Government Board as a supreme River Authority, as recommended in the ad-interim Report of the Royal Commission on Sewage Disposal.

3. "That the Council of the Sanitary Institute be asked to urge the County Councils to investigate the existing conditions of the Water Supplies within their districts, with special reference to quality and quantity of such supplies.

That the real or probable contamination of springs, wells and streams used for potable purposes should be particularly noted, with chemical and bacteriological analyses.

That attention should also, if possible, be directed to such additional or improved sources of Water Supplies as may be provided at a reasonable cost."

The Council decided that this Resolution be forwarded to the County Councils, with an explanation of the nature of the Conference at which it was passed, and adding the following note: That in investigating the real or probable contamination of springs, wells and streams used for potable purposes, special attention should be paid to careful inspections of the localities, and urged that County Councils should draw up a uniform scheme of action for the purpose of such an investigation, so that any work carried out in the future may be comparable with similar investigations in other counties.

SANITARY LEGISLATION.

The Institute had under consideration the following Bills introduced into Parliament during the year. The action taken by the Council and the fate of the Bill is noted in each case:—

Isolation Hospitals Amendment Bill. Brought in by the Earl of Lichfield.

A Bill intituled as an Act to amend the Isolation Hospitals Act, 1893.

The Council petitioned in favour of the Bill.

The Bill was passed and received the Royal assent.

Rivers Pollution Prevention Bill. Brought in by Sir Francis Powell.

A Bill to make more effectual Provision for prevention of the Pollution of Rivers and Streams.

The Council petitioned in favour of this Bill, calling attention to the desirability of amending the definition of "matter in suspension" which is re-enacted in the Bill.

The second reading was not reached.

Water Companies' Liability for Storage Bill.

No action was taken in regard to this Bill.

This Bill was dropped.

Factory and Workshop Acts, Amendment Bill. Brought in by Mr. Secretary Ritchie and Mr. Jesse Collings.

The Council petitioned in favour of this Bill, calling the attention of the Home Secretary to Clause 26, where the Inspection of certain Industries is proposed to be taken out of the hands of Sanitary Authorities, and to Clause 9, urging that the place of residence should be stated as well as the place of occupation.

The Bill was passed and received the Royal assent.

Factories and Workshops' Bill. Brought in by Mr. Tennant, Sir Charles Dilke, Mr. Talbot, Mr. John Burns, Mr. Sydney Buxton, Mr. Haldane, Sir John Stirling Maxwell, and Mr. McKenna.

A Bill to amend the law relating to Factories and Workshops.

No action was taken in regard to this Bill.

Second reading dropped.

Houses of Working Classes (Repayment of Loans) Bill. Brought in by Mr. Hay, Mr. Bull, Mr. Duke, Mr. Evelyn Cecil, Mr. Flower, Mr. Goulding, Mr. Remnant, and Mr. H. S. Samuel,

A Bill to extend the period for the repayment of Loans raised

for the provision of Workmen's Dwellings, and to confer further borrowing powers on Local Authorities.

The Council petitioned in favour of the Bill.

Second reading was not reached.

Public Health Bill. Brought in by Sir Francis Powell, Sir Walter Foster, Mr. Talbot, Dr. Farquharson, Mr. Henry Hobhouse, Mr. Cripps, Mr. Heywood Johnstone, and Sir Michael Foster.

A Bill to amend the Law, relating to the qualification and tenure of office of Medical Officers of Health, Inspectors of Nuisances, and Sanitary Inspectors, and to provide for Superannuation Allowances to such Officers and Inspectors, and for contributions towards such allowances by such Officers and Inspectors, and to make other relative provisions.

The attention of the promoters of this Bill, was drawn to certain clauses where it was thought alterations were desirable.

Second reading was not reached.

Cremation Bill.

A Bill intituled an Act for the regulation of the burning of Human Remains, and to enable Burial Authorities to establish crematoria.

The Council petitioned in favour of the Bill.

Third reading not reached.

Model By-Laws of the Local Government Board for Rural District Councils with respect to New Buildings.

The Local Government Board having forwarded copies of these Draft By-Laws and invited the Institute's observations thereon; a number of suggested alterations and amendments which, in the opinion of the Council were desirable, were forwarded to the Board. The By-Laws have now been issued.

Plumbers' Registration Bill.

A Bill with this title has been introduced in the House nearly every year since 1892, and has on two occasions reached a second reading. The action taken on the Bill in 1900 was reported in the Journal, Vol. XXI.

This year the Bill was introduced in the House of Lords. All details have been omitted, and the four clauses of which the Bill is composed cast on the Local Government Board the formation of a scheme for carrying the Registration of Plumbers into effect. When the Bill was read a second time Lord Kenyon stated that the Local Government Board did not want to undertake this duty. The Bill was not read in the House of Commons.

SESSIONAL MEETINGS.

Sessional Meetings for the discussion of subjects of Sanitary interest were held in February, March, and April, and the following subjects were brought forward:—

“The State of London Streets,” by T. BLASHILL, F.R.I.B.A.; Sir Alexander Binnie, M.INST.C.E., in the chair. As this paper referred to a number of matters which require to be remedied, a copy was sent to each member of the Metropolitan Boroughs.

“Ventilation: Success and Failure of the Methods at present in use,” by CHRISTOPHER CHILDS, M.A., M.D., D.P.H.; Mr. J. Osborne Smith, F.R.I.B.A., in the chair.

“Sewage Purification and Standards of Purity”; by H. R. KENWOOD, M.B., L.R.C.P., D.P.H., and W. BUTLER, M.B., D.P.H.

The papers read and discussions upon them are printed in the Journal, Vol. XXII.

The Council will be glad to receive from members any proposals as to appropriate subjects for discussion.

LECTURES AND DEMONSTRATIONS ON SANITARY SCIENCE.

At the Thirty-first course of Training held in February, March and April, 43 Students, and at the Thirty-second course in October and November 40 Students, entered their names,

The Objects and Appliances in the Parkes Museum, where the Lectures are given, are used for the purpose of practically illustrating the Lectures; and other objects, such as Carcases and Organs of Animals, are also obtained for demonstration.

A complete list of the Lectures has been given in Vol. XXII. of the Journal.

Technical Exhibitions are awarded by the Technical Education Board of the London County Council to the annual value of five pounds, which may, with the approval of the Board, be applied to paying the expenses of Students in attending these Lectures.

INSPECTIONS AND DEMONSTRATIONS.

In addition to the 32 Lectures and the Demonstrations given in the Museum, arrangements were made for the Students to visit the places mentioned below in order that they might have the oppor-

tunity of observing and noting the difficulties that have to be met in the practical application of Sanitary principles.

John Knight and Sons, Silvertown Soap Works. By kind permission of the Proprietors.

East London Water Works, Lee Bridge. By kind permission of W. B. BRYAN, M.INST.C.E., Engineer to the Company, who conducted the Students.

E. Cook & Co.'s East London Soap Works. By kind permission of the Proprietors.

Boake, Roberts & Co.'s Chemical Works. By kind permission of the Proprietors.

Marylebone Stoneyard. By kind permission of the Borough Surveyor, J. PAGET WADDINGTON.

Friern Barnet Sewage Works. By kind permission of E. J. REYNOLDS, ASSOC.M.INST.C.E., Surveyor to the District Council, who conducted the Students.

Barking Sewage Outfall Works. By kind permission of J. E. WORTH, M.INST.C.E., District Engineer, London County Council, who conducted the Students.

Southwark and Vauxhall Water Works, Hampton. By kind permission of J. W. RESTLER, M.INST.C.E., Engineer to the Company.

Demonstrations, in the Parkes Museum, of Book-keeping as carried out in a Sanitary Inspector's Office. Given by ALBERT TAYLOR, Sanitary Inspector of Westminster (2 demonstrations).

Morden Hall Dairy Farm. By kind permission of, and conducted by, the proprietor, OSCAR J. WHITE.

Ealing Sewage and Destructor Works. By kind permission of CHAS. JONES, M.INST.C.E., Engineer and Surveyor to the District Council, who conducted the Students (2 inspections).

Beddington Sewage Irrigation Farm, Croydon. By kind permission of THOS. WALKER, M.INST.C.E., Borough Engineer, who conducted the Students.

Sutton Sewage Works. By kind permission of C. CHAMBERS SMITH, Town Surveyor, who conducted the Students.

Wimbledon Sewage Works and Farm. By kind permission of

C. H. COOPER, M.INST.C.E., Engineer and Surveyor to the District Council, who conducted the Students.

Knacker's Yard. By kind permission of Messrs. HARRISON & BARBER (2 demonstrations).

Metropolitan Cattle Market. By kind permission of the Corporation of the City of London. Conducted by J. KING, M.R.C.V.S. (2 inspections).

Lambeth Disinfecting Station. By kind permission of J. PRIESTLEY, B.A., M.D., M.O.H. (2 inspections).

Islington Disinfecting Station. By kind permission of A. E. HARRIS, M.O.H., who conducted the Students.

Richmond Main Sewerage Pumping Station and Purification Works. By kind permission of the Engineer, W. FAIRLEY, ASSOC.M.INST.C.E., who conducted the Students.

St. George's, Hanover Square, Sanitary Works in different stages of progress, Disinfecting Station, Mortuary, &c., Model Dwellings (Gatliff Buildings), and Routine Office Work of a Sanitary Inspector. By kind permission of the Vestry. Conducted by A. TAYLOR, late Chief Sanitary Inspector (2 inspections).

Marylebone. Sanitary Inspector's Duties and Works in Progress. By kind permission of the Borough Council. Conducted by T. A. GORNIOT, Sanitary Inspector.

London County Council's Common Lodging House, Parker Street, Drury Lane. By kind permission of the Council. (2 inspections).

Disinfecting Apparatus and Model Steam Laundry. By kind permission of W. G. LACY (2 inspections), who conducted the Students.

During the period over which each course of Lectures extended the Students had the free use of the Library and Museum at all times when they were open, and special times were set apart during each week for the Students to examine the Museum with the assistance of the Curator.

The Council desire to record their sincere thanks to the Lecturers for the great benefits they have conferred upon the Students, and for the assistance they have given to the diffusion of Sanitary knowledge by the preparation and delivery of these Lectures, and also to those gentlemen who took so much trouble to make the various inspections and demonstrations instructive to the Students.

The Institute is also indebted to the London County Council, Metropolitan Borough Councils and District Councils, and others who are so kindly assisting them with regard to the visits, and in bringing the Lectures under the notice of their officers.

PROVINCIAL LECTURES.

The Course of 10 Lectures to Sanitary Officers was held in Leeds, under the auspices of a Joint Committee formed by the Sanitary Institute, the Technical Instruction Committee of the West Riding County Council, the County Boroughs of Leeds, Bradford, Huddersfield, and Halifax, and Yorkshire College. A large number of Inspectors and others attended the Lectures, and a number of them entered for the Examination arranged by the Institute at Bradford, at the conclusion of the Course. This has been one of the most successful and largely attended of these Courses that have been held, and is another evidence of the interest taken in sanitary matters in the West Riding of Yorkshire.

The Lectures were held in the Philosophical Hall, Leeds, on Saturday afternoons, commencing April 13th. There was an average attendance of 260.

EXAMINATIONS.

During the year Examinations were held at the following places:

IN PRACTICAL SANITARY SCIENCE.

Birmingham	Liverpool
Bradford	London (2)
Bristol	Manchester
Cardiff	Newcastle-upon-Tyne
Dublin	Norwich
Edinburgh	Sydney, N.S.W.

59 Candidates presented themselves, to 27 of whom Certificates were granted.

FOR INSPECTORS OF NUISANCES UNDER THE PUBLIC HEALTH ACT, 1875.

Birmingham	Liverpool
Bradford	London (2)
Bristol	Manchester
Cardiff	Newcastle-upon-Tyne
Dublin	Norwich
Edinburgh	Sydney, N.S.W.

At these Examinations 747 Candidates presented themselves, and 389 were certified competent, as regards their Sanitary knowledge, to discharge the duties of an Inspector of Nuisances under the Public Health Act, 1875.

FOR INSPECTORS OF MEAT AND OTHER FOODS.

During the year Examinations were held in London (2 Examinations), Birmingham, and Liverpool. 41 Candidates presented themselves, to 22 of whom Certificates were granted.

IN PRACTICAL HYGIENE FOR SCHOOL TEACHERS.

An Examination was held in Bradford. 4 Candidates presented themselves, to whom Certificates were granted.

The Sanitary Inspectors Examination Board (formed by The Sanitary Institute and other bodies), for holding Examinations under the Public Health (London) Act, 1896, held two Examinations during the year. There were 24 Certificates granted.

COLONIAL EXAMINATIONS.

During the year arrangements were completed for extending the Colonial Examinations of the Institute to Montreal in the Dominion of Canada, and to the following additional centres in the Commonwealth of Australia—Brisbane (Queensland), and Perth (Western Australia); and Boards of Examiners have been appointed by the Council of the Institute in each of these centres.

The first Colonial Examination was held at Sydney; 54 candidates presented themselves for examination, 3 in Practical Sanitary Science, 1 Certificate being granted, and 51 as Inspectors of Nuisances, 28 Certificates being granted.

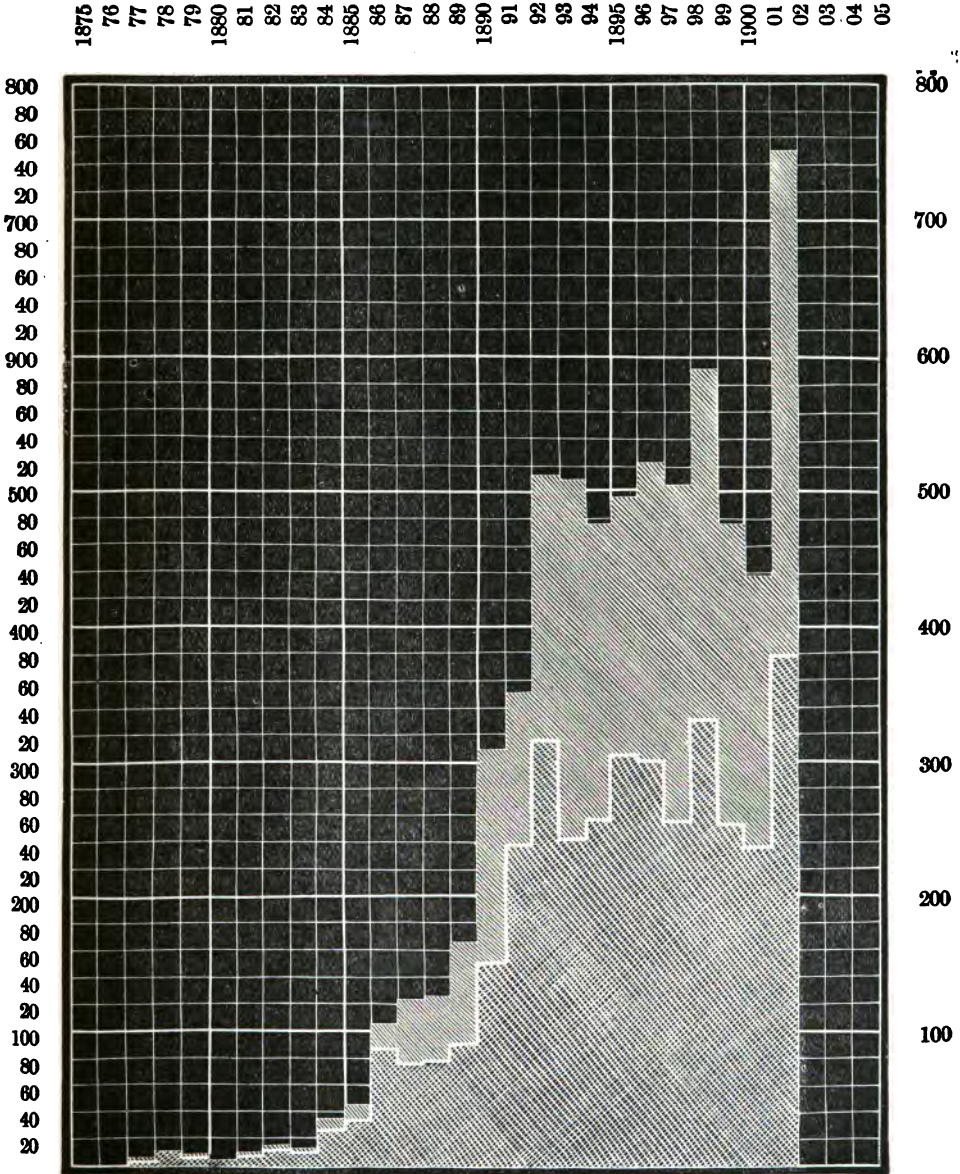
Examinations were established by the Institute in 1877, and the following figures show the total number of Examinations held, and the number of candidates :—

	Examinations.	Candidates Entered.	Candidates Certificated.
For Local Surveyors	35	291	142
Practical Sanitary Science	54	332	155
Inspectors of Nuisances	142	6,587	3,698
Inspectors of Meat and Other Foods	9	86	48
Practical Hygiene for School Teachers	3	23	18
	<u>243</u>	<u>7,319</u>	<u>4,061</u>

A Diagram relating to the Examinations for Inspectors of Nuisances is given on the following page.

EXAMINATION FOR INSPECTORS OF NUISANCES.

The total number of Candidates is shown by the height of the column shaded and the number who have obtained Certificates by the lighter portion.



LIBRARY.

Volumes and Pamphlets numbering 361 have been presented to the Library. Lists of these are published in Vol. XXII. of the Journal.

The number of references made by general readers has increased during the year, but the Library has not been so largely used by those attending the lectures.

Altogether about 400 references were made to the shelves by readers during the year.

For the convenience of Members, Associates, and Students who wish to borrow books for home reading, special arrangements have been made for the loan to them, at a small fee, of books from Lewis's Medical and Scientific Library, which contains a large number of recent text books and standard Sanitary works.

JOURNAL.

The volume published at the close of the nineteenth century completed the record of the first twenty-five years of the Institute's work, and the opportunity was taken to compile a General Index to the whole of these records. Much labour was expended in rendering the Index complete and comprehensive, and it will, it is believed, be found very useful by Members, and by students of the Science of Hygiene in other countries.

For the last five years the Transactions have been published in the form of a Quarterly Journal, which has contained, besides the Transactions of the Institute, matter prepared with much care and expense, which the Council believe to be of considerable interest to the Members: such as Abstracts of Titles of Articles on Public Health appearing in the British and Foreign Journals; Epitome of Law Cases relating to Public Health; Bibliography of Sanitary Literature; Reviews of Books, &c.

In beginning the New Series of Transactions with the year 1901, the Council decided to improve the general appearance of the Journal by increasing the size to a super royal page, and to transfer to a Supplement such matters as are more particularly of passing interest.

Besides the Papers read and Discussions at the meetings of the Institute, original articles by Members and others are inserted from time to time in the Journal.

The Journal and Supplement are issued concurrently each quarter and both are issued to the Members and Associates.

DINNER.

Sir Francis Sharp Powell, Bart., M.P., Vice-President, took the Chair at the Dinner of the Institute, which was held at the Holborn Restaurant on October 17th. About 90 Members, Delegates and Guests were present, amongst whom were the Mayors of Dover and West Ham, the Presidents of the Royal College of Physicians and Royal College of Surgeons, and the Chairman of the Sanitary Committee of Salford.

BUILDING FUND.

His Royal Highness the Duke of Cambridge, who has always taken a great interest in the progress of the Parkes Museum, approved and signed a letter relating to the fund to be raised for the new building. The letter was also signed by the Vice-Presidents, and was sent to a few of those likely to be interested. A number of donations have been received, and a further sum of £1,000 of capital has been allotted by the Council. The fund now amounts to £6,396 6s. 0d., with further Donations promised amounting to £426 1s. 0d., and a statement is given with the Finance accounts on page 19.

PARKES MUSEUM.

The Museum, besides being a most important adjunct to the teaching work of the Institute, forms the basis of a large proportion of the teaching in practical Hygiene that is given in London.

The visitors to the Museum during the year, including classes from Medical Colleges, Polytechnics, Science Centres, London Board Schools, &c., have considerably increased, as will be seen by the following table and the estimated number of ordinary visitors. The table shows comparative figures for the past nine years:—

Table showing the number of Classes and Students visiting the Museum.

Date.	Institutions from which Classes attended.		Classes.	Students.	
1892	..	13	68	..	854
1893	..	21	87	..	1043
1894	..	28	48	..	865
1895	..	50	93	..	1695
1896	..	49	82	..	1435
1897	..	53	138	..	1674
1898	..	47	97	..	1958
1899	..	40	97	..	2154
1900	..	51	136	..	2763
1901	..	50	154	..	3514

The estimate of ordinary visitors for the year is 8,000.

Thus it will be seen that 11,514 visits are recorded, in addition to the meetings and lectures arranged by the Institute, 3,500 of

these being made by interested Students visiting the Museum by appointment for definite instruction; in many of these visits the Students were conducted by the Curator, and demonstrations were given by him.

The following Institutions were represented, some of which sent Students on two or more dates:—

Acton and Chiswick Polytechnic.	North Hackney High School.
Architectural Association.	Regent Street Polytechnic.
Battersea Polytechnic.	Reigate Plumbers' Class.
Bermondsey Pupil Teachers' Sch.	Sesame House.
Brockley Science School.	Skinner's Company's School
Carpenters' Company's Institute,	(Girls).
Stratford.	Society of Estate Clerks of Works.
Charing Cross Hospital.	Southwark Pupil Teachers' School.
Charterhouse School of Science.	St. George's Hospital (Public
City of London College.	Health Students).
Clyde Street Science Centre.	St. Katherine's Coll., Tottenham.
Convent, Cavendish Square.	St. Marylebone Teachers' Centre.
Croydon Polytechnic.	St. Stephen's Girls' School, Pad-
Goldsmiths' Institute.	dington.
Graystoke Teachers' College.	St. Thomas's Hospital.
Guy's Hospital (Public Health	Stamford Hill School.
Students).	Swindon Technical School.
Hackford Road Science Centre.	Thornton Heath Polytechnic.
Hackney Institute.	Tilers and Bricklayers' Co.
Holloway College.	Tottenham Polytechnic.
King's College.	University College (Public Health
Kingston Science Centre (Surrey	Students).
County Council).	Walthamstow Technical Institute.
London Hospital (Public Health	Wandsworth Technical Institute.
Students).	Westbourne Park Institute.
London School Board.	West Ham Technical Institute.
Morley Memorial College.	William Street Science Centre.
N. T. School of Cookery.	Wimbledon Science Centre (Sur-
National Health Society.	rey County Council).
Northampton Institute.	Woolwich Polytechnic.
Northern Polytechnic.	

Thirty-seven additions of new exhibits have been made to the museum during the year, particulars of which are given each quarter in the Supplement to the Journal.

The collection of lantern slides for lecture purposes available to Members and Associates now contains some six hundred valuable illustrations, and has been largely used by the Members of the Institute.

A series of views of the Museum has been prepared and was published in the Journal, Vol. XXII.

FINANCE.

The Statement of Accounts for the year shows a considerable increase in the several items of receipts, and with the growth of the Institute a certain increase has necessarily occurred in the expenditure, but the result of the year's working shews a small balance of income over expenditure. This is a very satisfactory improvement on the year 1900.

HYGIENE IN EDUCATION.

In order to further the practice of Hygiene in Schools, the Council during the year sent a communication to the Consultative Committee of the Board of Education, pointing out that the practice of hygiene in the management of the schools can only be accomplished where the teachers have themselves been practically trained in the subject and understand how the laws of health enter into every department of school life, the mental as well as the physical, and that the subject is one that must be inculcated in the child by observation and experiment.

The Council further urged that the importance of the subject should be emphasised by the Education Department requiring some certificate, such as that granted under the syllabus arranged by the Institute, as necessary or desirable for all teachers seeking registration under Clause 4 of the Education Act, 1898.

The Course of training in practical Hygiene for Teachers, arranged in co-operation with Bedford College, was attended by sixteen students; it occupied three terms of the year, and consisted of thirty lectures and practical demonstrations on the following subjects:—

- Physiology and the allied Sciences,
- Construction and practical Sanitation of Schools,
- Hygiene in Education,
- Infectious Diseases and Disinfection.

The lectures were given partly at the Institute and partly at Bedford College.

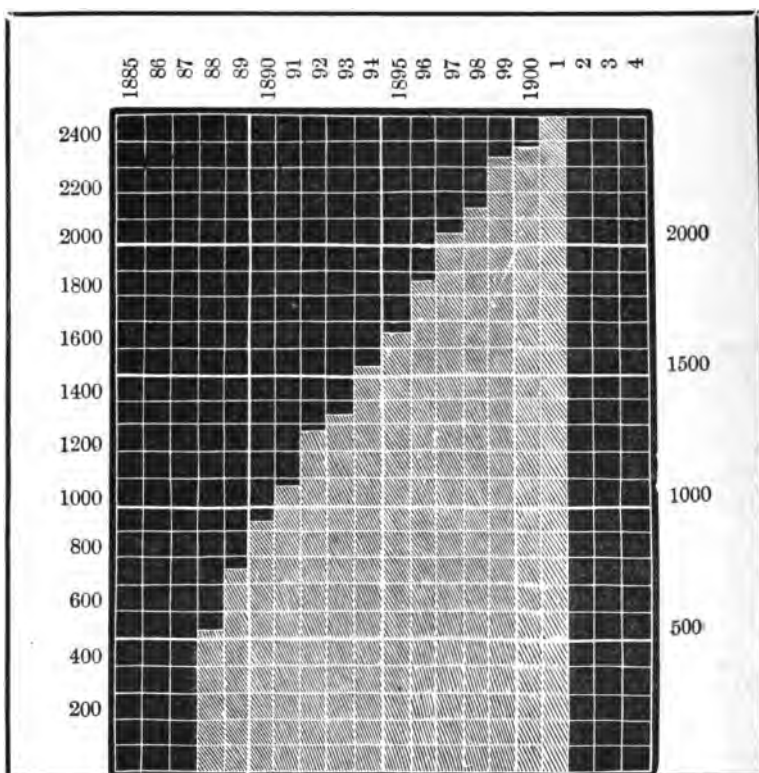
In the Autumn the Council received the Report prepared by Miss Ravenhill on the Teaching of Hygiene in the United States of America, which country she had visited on a joint commission for the Board of Education, the West Riding County Council, and The Sanitary Institute. The Report deals with the subject in a comprehensive manner and also gives a good deal of detail with regard to the schools and colleges visited. The Report will be published in full in the first part of Vol. XXIII. of the Journal.

EPITOME OF REGISTERS OF MEMBERS AND ASSOCIATES.

The comparison of the roll of the Institute with the preceding year shows a steady increase in the number of Members and Associates.

		Hon. Fellows.	Fellows.	Members.	Associates.	Total
Dec. 31st, 1900	....	35	161	884	1,298	2,378
Dec. 31st, 1901	....	38	170	908	1,392	2,508

Diagram showing the Yearly Increase in the Roll of the Institute.



OBITUARY.

It is with regret that the Council have to report the death of Prof. Dr. VON FODOR, F. ANDREAS MEYER, *Honorary Fellows*; W. SANTO CRIMP, M.INST.C.E., F.G.S., Major LAMOROOK FLOWER,

Members of Council; Major C. W. BELL, J.P., D.L., ARTHUR CATES, F.R.I.B.A., J. STOPFORD TAYLOR, M.D., *Fellows*; H. ST. VINCENT AMES, M.A., THOMAS DAVIES, JAMES DOULTON, W. GIBSON, R. C. IVY, ASSOC.M.INST.C.E., FRANCIS LE ROSSIGNOL, F.S.I., WASHINGTON LYON, Surgeon-General WILLIAM NASH, M.D., The Hon. N. N. WADIA, ASSOC.M.INST.C.E., M.I.M.E., F.S.A., C.I.E., *Members*; W. F. ANNETT, Miss E. S. CANN, J. HORROCKS, J. HUNTER, J. KEMSLEY, *Associates*.

EPITOME OF THE WORK OF THE INSTITUTE, 1901.

LONDON MEETINGS AND EXAMINATIONS.		Total Attendance
3 Sessional Meetings for discussion of Sanitary subjects ..		230
64 Lectures to Sanitary Officers		2,467
2 Special Demonstrations, Inspection of Meat		134
31 Practical Demonstrations for Sanitary Officers		696
2 Examinations in Practical Sanitary Science		23
2 Examinations for Inspectors of Nuisances		191
2 Examinations for Inspectors of Meat		25
135 Council and Committee Meetings		540
104 Classes brought to the Museum		2,206
50 Classes at Museum		1,308
Other persons visiting the Museum (<i>Estimated</i>)		8,000
30 Lectures on School Hygiene		450
Reception of the Members of the Tuberculosis Congress		300
Visitors to Water Supply Exhibition		750
2 Conferences on Water Supply		350

COLONIAL AND PROVINCIAL MEETINGS.

11 Practical Sanitary Science	36
1 Examination in Practical Hygiene for School Teachers ..	4
11 Examinations for Inspectors of Nuisances	556
2 Examinations for Inspectors of Meat and other Foods ..	16
10 Lectures in West Riding, Yorkshire	2,600

A. WYNTER BLYTH,

Chairman of Council.

E. WHITE WALLIS,

Secretary.

March 12th, 1902.

STATEMENT of INCOME and EXPENDITURE

Dr.	EXPENDITURE.	£	s.	d.	£	s.	d.
<i>Establishment Charges:—</i>							
To Rent, Rates, Taxes, and Insurance		510	1	3			
„ Salaries and Wages		1,331	17	6			
„ Coals, Lighting, and Care of Offices		110	6	11			
„ Repairs, Alteration, and Arrangement of Museum		254	2	5			
„ Library, Binding, &c.		21	3	10			
„ Postage and Carriage		208	8	7			
„ Printing, Stationery, and Advertising		231	16	11			
„ Incidental Expenses		90	15	3			
„ Office Furniture		1	0	8			
„ Depreciation of Leaseholds		25	0	0			
					2,784	13	4
<i>Special Expenses, exclusive of Establishment Charges:—</i>							
To Journal and Publications, Cost of Print- ing, etc., less Sales and Advertisements		480	0	3			
„ Index to Transactions, less Sales		121	10	0			
„ Sessional Meetings		17	1	9			
„ Lectures, Sanitary Officers		241	2	3			
„ „ School Hygiene		20	2	11			
„ Report of Teaching of Hygiene in America		26	5	0			
„ Examination Expenses		1,077	17	11			
„ Conference on Water Supply and Exhibi- tion		224	15	8			
„ List of Awards to Exhibits		40	18	9			
„ Experiments		4	3	1			
„ Institute Dinner—Balance of Expenses...		10	6	2			
„ Street Cleansing—Communication to Me- tropolitan Boroughs		23	15	2			
„ Tuberculosis Congress and Reception		29	14	3			
					2,317	13	2
„ Balance carried to Nett Revenue account..					57	16	5
					£5,160	2	11

NETT REVENUE

To Amount allotted to Building Fund	1,000	0	0			
„ Cowl Experiments	507	2	7			
„ Rogers Field Portrait	105	0	0			
				1,612	2	7
Balance to be carried forward to next a/c				9,241	8	9
				£10,853	11	4

For the Year ended 31st December, 1901.

INCOME.		Gr.	
	£ s. d.	£ s. d.	
<i>General Receipts:—</i>			
By Annual Subscriptions, less Arrears written off	1,784 17 0		
„ Interest on Investments, etc.	441 6 0		
		2,226 3 0	
<i>Special Receipts:—</i>			
„ Lectures, Sanitary Officers	235 9 7		
„ „ School Hygiene	23 3 5		
„ Examinations	2,481 17 8		
„ Publications—Profit on Sales	1 0 3		
„ Conference on Water Supply and Exhibition.....	192 9 0		
		2,933 19 11	

£5,160 2 11

ACCOUNT.

By Balance brought forward from last account (1900)...	10,795 14 11
„ „ for the year brought down	57 16 5

£10,853 11 4

BUILDING

	£	s.	d.
To Balance	6,396	6	0

£6,396	6	0
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GENERAL BALANCE SHEET,

	£	s.	d.	£	s.	d.
LIABILITIES.						
To Fees and Subscriptions paid in advance for 1902	117	10	0			
„ Sundry Creditors	862	14	1			
				980	4	1
„ Balance of Library Catalogue Account	98	2	9			
„ „ Life Composition Fund	480	18	0			
„ „ Building Fund.....	6,396	6	0			
„ „ Income and Expenditure Account ...	9,241	8	9			
				16,216	15	6

£17,196	19	7
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Examined with the Books, Vouchèrs, and Accounts and found correct.

March 3rd, 1902.

FUND.

	£	s.	d.
By Balance forward from last Account	5,100	10	0
„ Nett Revenue Account	1,000	0	0
„ Donations	296	16	0
	<u>£6,396</u>	<u>6</u>	<u>0</u>

Further donations have been promised to the amount of £426 1s.

31st DECEMBER, 1901.

ASSETS.	£	s.	d.	£	s.	d.
By Leases of Premises, Library and Contents of Museum, Furniture and Publications	1,384	1	0			
„ Subscriptions in Arrear and Sundry Debtors ...	457	14	8			
„ Cash in hand.....	82	5	11			
				1,924	1	7
„ Investments valued at cost—						
£7,658 11 1 2½% Consols	7,452	15	0			
£1,000 0 0 3 % India Stock.....	1,095	1	0			
£1,000 0 0 3½% „	1,156	6	0			
£5,000 0 0 4 % New Zealand Stock	5,568	16	0			
				15,272	18	0
				<u>£17,196</u>	<u>19</u>	<u>7</u>

W. COLLINGRIDGE, M.A., M.D.,
LASS, WOOD, & DREW, Chartered Accountants, } *Auditors.*

REVIEWS OF BOOKS.

THE BACTERIAL PURIFICATION OF SEWAGE.*

The present treatise is the substance of a report prepared by Dr. Barwise for the Derbyshire District Councils, and gives an account of experiments at Chesterfield and Burton, with excerpts from the Manchester, Leeds, and a few other published investigations. It is put forward as a supplement to the author's small work on Sewage Purification issued two years ago, and has had the collaboration of two engineers, Messrs. J. and G. Story, who are responsible for the engineering details. As the apology for the smallness of the present volume is that the author has "been at pains to remove all padding," we may venture to point out how in another edition space may be saved for more valuable matter; and, first, it would have been wiser to have deleted the main portion of the preface, which contains a number of injudicious statements. The examples of "padding" on pp. 21 to 25 should also have been excised, more particularly as the credit for the origination of various bacteriological processes is very unfairly assigned. Much space is consumed by the too copious use of tabulation, and the table of comparison between contact beds and continuous filters on pp. 29 and 30 might have been summed up in the author's one sentence that, in his opinion, "percolating filters give best results." The characters of certain sewages are repeated in almost identical terms on pp. 18, 36, and 44. As instances of omission, the formula on p. 6 for the quantity of sewage per head of the population is not explained; it is also not mentioned what the figures in the table on p. 17 refer to, and the chemical changes (p. 8) are rather scantily described. A useful note (p. 39) is that the work of an oxidizing filter is measured by the reduction of alkalinity in the sewage, but it is not fully explained that a great part of this is due to the conversion of *ammonia* into nitrous and nitric acids. The opacity tests (p. 9) are arbitrary, but may be useful. We wonder, by the way, whether the local Derbyshire equivalent for automatic tippers is "tipplers" (pp. 26, 41). The only justification we can find for the author's use of the word in this sense is the Norwegian *tipla*, to drop.

We further hope that readers will not be led away by the author's statement (p. 20) that a fall of twenty feet will prevent clogging of a filter bed, and so enable the engineer to omit the provision of an anaërobic preliminary.

Apart from these points that need improving, the book will be of service as a résumé of the subject, if read in conjunction with other treatises. The illustrations are good, and some of the local matter is new and interesting. S.R.

* By Sidney Barwise, M.D. Crosby Lockwood & Son. 48 pp. and 12 plates. Price 6s. net.

ANNOTATED BY-LAWS AS TO HOUSE DRAINAGE.*

The new Drainage By-Laws of the London County Council came into force in June, 1901, and the object of this work is to explain the By-Laws in detail in order to assist sanitary officers, builders, architects, and owners in interpreting them. That they require interpreting is obvious from the numerous annotations and useful references in this book. These By-Laws reduce to uniformity the requirements of the various Metropolitan Boroughs. These, together with the promised By-Laws as to plans of drainage, will cover the whole ground as to new drains, pipes, and fittings. The book is sound and useful.

J. F. J. S.

LABORATORY DIRECTIONS FOR BEGINNERS IN BACTERIOLOGY.†

This little work is essentially a book for the student to have on his working bench. It is conveniently small, and is not—as so many so-called practical books are—a cross between a laboratory book and a work of reference.

The lessons are well graduated, the practical directions being clear and to the point. The only fault that can be found with it is that the references given to text-books are not full, and are not in every case well chosen. The book would also have been improved by the addition of a few illustrations of typical organisms; this could have been done without increasing the size of the volume, as at the end of nearly every exercise there is a blank space of from half to three-quarters of a page.

M. W. B.

SANITARY ENGINEERING.‡

This is a book which has been written by a thoroughly practical man upon subjects with which he is well acquainted.

The book of 288 pages includes chapters on Hydraulics and necessary Formulæ for Velocities of flow of sewage and water, with pressure on retaining wells, etc. There is a good chapter on House Drainage, and others on Sewerage, Sewage Disposal, Ventilation, etc., a useful chapter on Trade Refuse and River Pollution, and another on Refuse Disposal. The book has been brought quite up-to-date, and will be found most useful to anyone engaged upon sanitary work.

* By G. J. C. Jensen, London Sanitary Publishing Company. 1901. 139 pp. 8vo. Price 3s. 6d.

† By Veranus A. Moore, B.S., M.D. Boston, U.S.A.: Ginn & Company. Second Edition.

‡ A practical manual of Town Drainage, and Sewage, and Refuse Disposal, by Francis Wood, A.M.Inst.C.E., F.G.S. London: C. Griffin & Co. 304 pp. 8vo. 1902. Price 6s.

It also forms a valuable addition to the books of reference for those engaged in "reading up" for examinations.

There are 181 useful wood-cuts, and we agree with the author, who states in his preface—"The greatest care has been exercised to ensure the accuracy of every statement taken from outside sources."

A good index is provided, without which a work of this character could not be called complete.

H. P. B.

NOTES ON BOOKS AND PAPERS IN TRANSACTIONS.

"Hygiene for Students," by Edward F. Willoughby, M.D., D.P.H. 563 pp., 8vo. London, 1901. *Macmillan & Co.* Price 4s. 6d.

Though under a different title, it is, in fact, a fourth edition, enlarged and improved, of the *Principles of Hygiene* by the same author.

The author's design is that the book should form a Manual for the Science and Art Department Examinations, as well as being useful to candidates for Inspectors of Nuisances Examinations, etc.

The Book contains twenty chapters and is divided into six parts; there are thirty-nine illustrations.

Part I., styled "Health of the Man," deals with Food, Cooking, Clothing and Habits, Exercise, etc.

Part II., "Health in the House," has chapters on Sites and Aspects for Dwellings, Ventilation, Laws of Heat and House Drainage and Water-Closets.

Part III., "Health of the City," has chapters on Potable Waters, Amount of Water required by Towns, and Water Carriage Systems.

Part IV., "Health of the People," deals with Preventable Disease, Preventive Measures, School Hygiene, and Health in the Workshop.

Part V., Demography.

Part VI., Meteorology.

An Appendix contains information and tables regarding Weights and Measures, Standard Solutions and Re-agents, and the Census—England and Wales, Scotland and Ireland.

"Hygiene and Public Health," by B. Arthur Whitelegge, M.D., B.Sc., F.R.C.P., D.P.H. 588 pp., 8vo. London, 1901. *Cassell & Co., Ltd.* Price 7s. 6d.

Among the alterations made in this edition of Dr. Whitelegge's widely-known manual, will be found an Amendment of the Official

System of recording Local Vital Statistics, Model Regulations for Dairies and Cowsheds, Extensions of the Notification Act and Sale of Food and Drugs Acts.

In sixteen chapters the author deals with Air, Meteorology, Water, Food, Soil, Buildings, Removal of Refuse, Disposal of the Dead, Animal Parasites, Infection, Disinfection, Specific Diseases, Prevention of Infectious Diseases, Medical Officers of Health, Sanitary Laws, By-Laws and Regulations and Vital Statistics.

There are ten Appendices comprising Statistical Tables required by the L.G.B., Model Regulations for Dairies, Cowsheds and Milkshops, Standards for Milk and Cream, Model Plans for Small Isolation Hospitals, Recent Sanitary Legislation, Summary of Census, 1801-1891—England and Wales, and mean annual Death-rates at different Age Periods, 1841-1890, Life Table, 1881-1890, Conversion of Weights and Measures, Shell Fish and Infection.

“Handbook on Sanitation”: A Manual of Theoretical and Practical Sanitation for students and physicians; for health, sanitary, tenement-house, plumbing, factory, food, and other inspectors; as well as for candidates for all municipal sanitary positions, by George M. Price, M.D., 317 pp. 8vo. New York, 1900. *J. Wiley & Sons.* Price \$1 50c.

This is a manual written by a Medical Sanitary Inspector of the Department of Health of New York City, and intended to assist candidates in the Civil Service Examinations of the United States for Sanitary Positions.

The book is divided into four parts, under Sanitary Science—Sanitary Practice—Sanitary Inspection—and Sanitary Law.

There are forty-seven chapters dealing with Soil, Air, Ventilation, Warming, Water, Sewage, Plumbing, Different Classes of Dwellings, Stables, slaughter-houses and Offensive Trades, Food, Milk, Infectious Diseases, Disinfection, School Inspection, Sanitary Inspectors in the United States, and the various Laws and Regulations, etc.

“The Cost of Food: a study in Dietaries,” by Ellen H. Richards. 161 pp., 12mo. New York, 1901. *J. Wiley & Sons.* Price \$1 (4s. 6d.).

The author in fifteen chapters considers the subject under the heads of: Food a necessity, Knowledge of Food Values; Food of Infant, School Child, Active Youth, Youth at College, and the Brainworker, Traveller and Professional Person; Food for Penal and Pauper Institutions and Hospitals; Food for Middle Life and Old Age—General Principles governing Dietaries and cost per person per day. A Glossary of the terms used, and a Bibliography of the subject, are given.

"The Law relating to Factories and Workshops (The Factory and Workshop Act, 1901) with Appendix containing the Special Rules under the Factory Acts, 1891 and 1895," by Evans Austin, M.A., LL.D. 464 pp. 8vo. London, 1901. Second Edition. *Knight & Co.*

The Notes in this Edition have been entirely re-written and considerably extended. The new provisions of the 1901 Act are shown in Notes to Sections—where a section is a re-enactment the corresponding sections of the repealed Acts are given in each case under marginal notes. Copies of the "Special Rules" under the Factory Acts, and "Orders" of the Secretary of State, the Truck Acts, 1831–1893, the Shop Hours Acts, 1892–1895, the Seats for Shop Assistants Act, 1899, the Text of the Workmen's Compensation Acts, 1897 and 1900, will be found in the Appendix.

ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

Abstracts of Titles classified in this List under the following headings:—

Science in Relation to Hygiene and Preventive Medicine.

Hygiene of Special Classes, Trades, and Professions ; and Municipal Administration.

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

SOCIETY OF CHEMICAL INDUSTRY and of the SOCIETY OF PUBLIC ANALYSTS, Report of the Conjoint Committee of the, on the Detection and Approximate Estimation of Minute Quantities of Arsenic in Beer, Brewing Materials, Food Stuffs, and Fuels. *The Analyst*, February, 1902, p. 48.

ANDERSON, R. The Disposal of Sewage. *The Journal of State Medicine*, March, 1902, p. 160.

APPEL, Dr. J. Ein Fall von Bakteriurie durch einen typhus-
ähnlichen Bacillus bedingt. *Zeitschrift für Hygiene und
Infectionskrankheiten*, Bd. XXXVIII., Heft 3, p. 355.

The Author describes a case of Urethrititis, anterior et posterior,
caused by a typhoid-like bacillus.

CLAIRMONT, Dr. P. Differentialdiagnostische Untersuchungen
über Kapselbakterien. *Zeitschrift für Hygiene und Infections-
krankheiten*, Bd. XXXIX., Heft 1, p. 1.

This is a lengthy paper, containing differential diagnostic investi-
gations concerning capsule bacteria.

GRUBER, MAX, M.D. Bacteriolysis and Hæmolysis. *The
Journal of State Medicine*, March, 1902, p. 125.

Being one of the Harben Lectures.

HEYMANN, B., und MATZUSCHITA, T. Zur Aetiologie des
Heufiebers. *Zeitschrift für Hygiene und Infectionskrankheiten*,
Bd. XXXVIII., Heft 3, p. 495.

This is a paper on the etiology of hay fever.

KIRSTEIN, F. Dr. Ueber die Dauer der Lebensfähigkeit von
Kyan Rhuts Reimen in der Form feinsten Tröpfchen und
Stäubchen. *Zeitschrift für Hygiene und Infectionskrankheiten*,
Bd. XXXIX., Heft 1, p. 93.

This is a very lengthy paper (77 pages) on the duration of the
vitality of pathogenic germs in very minute drops of particles of dust.

KLEINE, F. K. Ueber die Resorption von Chininsalzen. *Zeit-
schrift für Hygiene und Infectionskrankheiten*, Bd. XXXVIII.,
Heft 3, p. 458.

This is a paper on the resorption of quinine salts.

——— Ueber Schwarzwasserfieber. *Zeitschrift für Hygiene
und Infectionskrankheiten*, Bd. XXXVIII., Heft 3, p. 472.

This is a paper on Blackwater Fever.

KOZAI, Y. Weitere Beiträge zur Kenntniss der natürlichen
Milchgerinnung. *Zeitschrift für Hygiene und Infectionskrank-
heiten*, Bd. XXXVIII., Heft 3, p. 386.

This is a contribution to our knowledge of the natural turning of
milk.

LOFTUS, T. Special Legislation for Health and Pleasure Resorts. *The Journal of State Medicine*, January, 1902, p. 12.

MARKL, Dr. Ueber Hemmung der Hämolyse durch Talzi. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXIX., Heft 1, p. 86.

This is a paper on the stoppage of haemolysis through salts.

MARTINI, Dr. E. Ueber Inhalationspest der Ratten. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 2, p. 332.

The Author describes his experiments on the inhalation-plague of rats, undertaken with a view to preparing a protective serum against bubonic plague.

MARX, Dr. Experimentelle Untersuchungen über die Beziehung zwischen dem Gehalt an Immunitätseinheiten und dem schützenden und heilenden Werth der Diphtherieheilsera. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 3, p. 372.

The Author concludes his paper as follows: The toxine neutralizing power of diphtheria serum, i.e., the number of units of immunity it contains, and the immunising and curative action of serum are three factors, which are very closely related to each other in this way that the immunising and curative effect of serum is directly proportional to the number of immunity units it contains.

OSTERTAG, Prof. Dr. Untersuchungen über den Tuberkel bacillengehalt der Milch von Kühen, welche auf Tuberculin reagirt haben, klinische Erscheinungen der Tuberculose aber noch nicht zeigen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 3, p. 415.

The paper contains investigations into the presence of tubercle-bacilli in the milk of cows, which have reacted in tuberculin, but which have not yet shewn the clinical appearances of tuberculosis.

PLATO, Dr. J. and GUTH, Dr. H. Ueber den Nachweis feinerer Wachstumsvergänge in Trichophyton—und andern Fadenpilzen mittels Neutralroth. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 2, p. 319.

The Authors describe their experimental researches with neutral red into the delicate processes of growth of trichophyton and other hyphomycetes.

SCHÜDER, Dr. Zur Aetiologie des Typhus. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 3, p. 343.

This is a short paper on the etiology of typhoid fever. The Author examines 650 well authenticated cases of typhoid fever outbreaks, with a view to classifying them as to their means of propagation, and distinguishes the following media: water, milk, other food stuffs, clothing and bedding, infected latrines, manure, pollution of soil, disturbing soil, dust, air, and wind, and underground water, floods and burials.

SCHÜTZE, Dr. A. Experimentelle Untersuchungen zur Kenntniss der Einwirkung der Antipyretica auf den Verlauf acuter Infektionskrankheiten. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 2, p. 205.

This is a short paper, containing experimental investigations concerning the influence of Antipyretica on the course of acute infectious disease.

——— Weitere Beiträge zum Nachweis verschiedener Eiweißarten auf biologischem Wege. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 3, p. 487.

In this paper the Author makes a further contribution for determining various albuminoids biologically.

SMITH, W. R., M.D., D.Sc., F.R.S.Edin. Preservatives in Food. *The Journal of State Medicine*, January, 1902, p. 1.

WASIELEWSKI, Dr. Beiträge zur Kenntniss des Vaccine Erregers. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXVIII., Heft 2, p. 212.

This is a very lengthy paper (106 pages), on our knowledge of the vaccine-exciter. After critically reviewing the work of others the Author details his own experiments, and sums up his remarks with ten lengthy conclusions.

WEEKSBERG, Dr. F. Zur Lehre von der natürlichen Immunität und über baktericide Heilsera. *Zeitschrift für Hygiene und Infektionskrankheiten*, Bd. XXXIX., Heft 1, p. 171.

The Author deals with the subject of natural immunity and with bactericide curative sera.

Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

BROWNE, Sir JAMES CRICHTON, M.D., F.R.S. New Year's Address to the Sanitary Inspectors' Association. *The Sanitary Inspectors' Journal*, January, 1902, p. 158.

General review of sanitary work.

"BUILDER," EDITOR OF THE. Criticism of Model By-Laws for Rural Districts. *The Builder*, November 30th, 1901, p. 477.

Several individual by-laws commented upon. These by-laws relate to the Public Health Act, 1875.

CAMPBELL, A. H. The Problem of the Housing of the Labouring Classes, with special reference to Suburban Districts. *The Surveyor*, November 29th, 1901, supplement.

Definition of Labouring Classes—facilities for getting to work—design of building, air space, and rent—size of house—points in the design for a working man's home—financial and legislative, practice of continental authorities.

CLARKE, HOWARD CHATFIELD. Gresham's School, Holt, Norfolk. *The Builder*, January 25th, 1902, p. 86.

Description of buildings, with plans and perspective view.

DUCK, A. G. Evolution of the Sanitary Inspector. *The Sanitary Inspectors' Journal*, March, 1902, p. 206.

Historical account of Sanitary Inspectors' work, and a suggestion that Sanitary Inspectors should be on the Board of Examiners.

FLORENCE, H. L., F.R.I.B.A. Proposal for a New Road parallel to Piccadilly. *The Builder*, November 30th, 1901, p. 484.

Plan shewing proposed road, and description of scheme.

HENMAN, WILLIAM, and COOPER, THOMAS. The Royal Victoria Hospital, Belfast. *The Builder*, December 21st, 1901, p. 557.

Description of building, plan and perspective view.

RIDGE, LACY W., F.R.I.B.A. The New Model By-Laws for Rural Districts. *R.I.B.A. Journal*, November 23rd, 1901, p. 39.

Criticism of the By-Laws.

- SKINNER, W. S. New Buildings, St. Peter's Hospital, Bristol, *The Builder*, December 21st, 1901, p. 564.
Description of buildings.

Building Materials, Construction and Machinery.

- HUMPHREYS, H. HOWARD, M.Inst.M.E. The History, Manufacture, Testing, and Uses of Portland Cement. *The Builder*, December 28th, 1901, p. 575.
- RAMSAY, Professor, F.R.S. The Bearing of modern Chemical Theory on some Problems connected with the Building Trade, *The Builder*, March 15th, 1902, p. 269.

Water Supply, Sewerage and Refuse Disposal.

- ANON. The Pittsburg Water Purification Works. *The Engineering Record*, January 25th, 1902, p. 73.
Description of open sand filters with an effective filtering area of 25 acres, and works in connection therewith.
- CLARKE, MAX, A.R.I.B.A. The Sanitation of a Country House. *The Builder*, November 23rd, 1901, p. 458.
Architects' responsibilities—subsoil drainage—foundations—damp courses—walls—roofs—windows—drains—baths—lavatories—traps—water supply—cisterns—soil pipes—sewage disposal.
- HANSON, JOHN H. Purification of Trade Waters, from a Mill Owner's Point of View. *The Builder*, January 18th, 1902, p. 57.
Explanation of the Law upon this point, and a suggestion that trade waters be turned into sewers, and the cost of dealing with them be borne by the community who benefit by the existence of the works.
- HAWKSLEY, CHARLES, M.Inst.C.E. Engineering progress during the last Century (Presidential Address). *The Surveyor*, November 15th, 1901, p. 578.
Roads, their construction and maintenance—waterworks—reservoir dams—rivers as a source of supply—regulation of domestic supply—sewerage and sewage disposal—purification of sewage—electricity.
- HETHERINGTON, ROGER GASKELL, M.A. Ilford Main Drainage. *The Surveyor*, November 8th, 1901, p. 552.
Growth of Ilford—history of the drainage of Ilford—new main

sewers—pumping station—settling tanks—sewage works—sludge pressing installation—sewage effluent.

INGHAM, WILLIAM, A.M.Inst.C.E. The design, construction, and cost of open and covered service reservoirs. *The Surveyor*, December 13th, 1901, p. 688.

Chief considerations in design of service reservoirs—construction of reservoirs—position of inlet and outlet pipes—materials used in construction—retaining walls—covering of reservoirs—summarized particulars of service reservoirs—size, capacity and cost.

PARRY, W. K., M.A., M.Inst.C.E. The Discharge of Sewage into a Tidal Estuary. *Engineering*, November 29th, 1901, p. 758.

Special reference to the river Liffey and its estuary—method of taking observations of the estuary waters—chemical analyses—the relative volume of sewage and clean water—results of observations.

PRIESTLEY, G. A. Refuse Destruction—some results of a modern furnace. *The Journal of State Medicine*, March, 1902, p. 144.

RIDEAL, SAMUEL, D.Sc., F.I.C. The Aëration Test for Sewage Effluents. *The Surveyor*, November 8th, 1901, p. 558.

Agencies at work in natural purification tests for examining effluents—the open process—physical conditions (tabulated)—conclusions—influence of organisms on absorption.

Heating, Lighting, and Ventilating.

ANON. Lighting, Heating, and Ventilation, in the Nassau County Court House, Mineola, N.Y. *The Engineering Record*, January 18th, 1902, p. 61.

Description of plant for lighting, warming, and ventilating the building which is T shaped, the main portion 37 ft. by 176 ft., and the back addition 52 ft. by 60 ft., all constructed in concrete reinforced by steel.

METER, Prof. E. (trans. by C. F. Hauss). Temporary Warming by Storage of Heat. *The Engineering Review*, January 25th, 1902, p. 86.

A description of the method of temporarily warming the Vienna Royal Palace Library for a special occasion. Iron piping was laid down on the stone floor and steam turned in for about a fortnight, all being removed two days before the reception. The heat absorbed by the floor and walls was only given out slowly, and the operation was quite satisfactory.

RICHMOND, Sir WILLIAM, K.C.B., R.A. Coal Smoke Abatement. *R.I.B.A. Journal*, March 8th, 1902, p. 221.

Advocating smoke abatement, with suggestions for assisting the complete consumption of smoke.

ROEHLING, H. ALFRED, Assoc.M.Inst.C.E., F.G.S. The Sewage Question during the last Century. *The Surveyor*, December 6th, 1901, pp. 660-1.

Introductory observations—self-purifying powers of soil—natural self-purification of sewage—artificial self-purification of sewage in septic and other tanks, followed by treatment in oxidation beds—combination of natural and artificial methods of self-purification of sewage—conclusions.

SANITARY LEGISLATION.

The Council of the Institute have had under consideration the following Bills introduced into Parliament this Session. The action taken by the Council is noted in each case:—

Vaccination Bill. Brought in by Mr. Broadhurst, Mr. Thomas Bayley, Sir John Rolleston, Mr. Channing, and Mr. Corrie Grant.

A Bill to amend the Vaccination Acts.

Decided to petition against this Bill.

Ice-cream Shops' (Scotland) Bill. Brought in by Mr. Orr-Ewing, Mr. Cameron Corbett, Mr. John Dewar, and Mr. Law.

A Bill to regulate the opening and closing of shops for the sale of ice-cream, refreshments for consumption on the premises, and tobacco, in Scotland.

No action taken.

London Water Bill. Brought in by Mr. Long, Mr. Secretary Ritchie, Mr. Attorney-General, and Mr. Grant Lawson.

A Bill for establishing a Water Board to manage the supply of water within London and certain adjoining districts, for transferring to the Water Board the undertakings of the Metropolitan Water Companies, and for other purposes connected therewith.

No action taken, as the Bill did not appear to contain any sanitary provisions.

The London County Council Bills for *Subways and Tramways*, *Electric Supply*, *Tramways and Improvements*, and *London Water (Purchase of Companies)*.

No action taken as the bills contain no sanitary provisions.

MEETINGS HELD JANUARY TO APRIL, 1902.

ORDINARY GENERAL MEETING.

The Ordinary General Meeting was held on March 19th. The Annual Report and Statement of Accounts for 1901 were submitted. The Report, on page 1 of this Supplement, gives an account of the various branches of work undertaken by the Institute.

The following resolution was passed, and the Officers and Members of Council were elected or re-elected:—

“That this meeting greatly appreciates the interest taken in the work of the Institute by His Royal Highness the Duke of Cambridge, and the assistance given by him in graciously holding the office of President. That the best thanks of the Institute are due and hereby presented to His Royal Highness, and that this meeting fully approve of the action taken by the Council in accordance with the powers conferred upon them by Article 50A, in re-appointing His Royal Highness the Duke of Cambridge as President for another year.”

Vice-Presidents.

HIS GRACE THE LORD ARCHBISHOP OF CANTERBURY, P.C., D.D.
 HIS GRACE THE DUKE OF NORTHUMBERLAND, K.G., P.C.
 RIGHT HON. EARL FORTESCUE.
 Sir F. ABEL, Bart., K.C.B., G.C.V.O., D.Sc., D.C.L., F.R.S.
 Sir JOSEPH FAYRER, Bart., K.C.S.I., LL.D., M.D., F.R.S.
 Sir FRANCIS SHARP POWELL, Bart., M.P.
 Sir WILLIAM HENRY PREECE, K.C.B., F.R.S., M.Inst.C.E.
 Sir THOMAS SALT, Bart., M.A., D.L., J.P.
 Sir HENRY THOMPSON, Bart., F.R.C.S., M.B.Lond.
 Prof. W. H. CORFIELD, M.A., M.D.Oxon., F.R.C.P., F.I.C.,
 F.C.S., F.G.S.
 A. WATERHOUSE, R.A., F.R.I.B.A., LL.D.

As Members of Council.

Prof. HENRY ADAMS, M.Inst.C.E., F.S.I.	Col. A. S. JONES, V.C., A.M.I.C.E.
T. W. ALDWINCKLE, F.R.I.B.A.	Col. J. LANE NOTTER, M.A., M.D., D.P.H.
A. WYNTER BLYTH, M.R.C.S.	WILLIAM KAYE PARRY, M.A., M.Inst.C.E., F.R.I.B.A.
A. WELLESLEY HARRIS, M.R.C.S., L.S.A., D.P.H.	GEORGE REID, M.D., D.P.H.

As Treasurer.

Prof. W. H. CORFIELD, M.A., M.D., F.R.C.P., F.I.C., F.C.S., F.G.S.

As Auditors.

W. COLLINGRIDGE, M.A., M.D., LL.B., D.P.H.
 ALFRED LASS, WOOD & DREW.

SESSIONAL MEETINGS.

Meetings were held as follows: on February 12th, a Discussion was opened by Mr. A. WYNTER BLYTH, M.R.C.S., F.I.C., F.C.S., on "The Prevention of Small Pox"; Sir James Crichton-Browne, M.D., LL.D., F.R.S., in the Chair.

The Paper and Discussion is printed in the JOURNAL, p. 1.

March 19th, on "Collection and Disposal of Refuse in Large Towns"; by H. PERCY BOULNOIS, M.Inst.C.E.; Mr. H. D. Searles Wood, F.R.I.B.A., in the Chair.

This Paper and Discussion will be printed in the JOURNAL, Vol. XXIII., Part II.

COURSE OF TRAINING IN PRACTICAL HYGIENE.

A Course of twenty-one Lectures, under the auspices of the Institute and Bedford College, commenced on January 25th, and will be continued during Easter Term, commencing May 17th, and Michaelmas Term, commencing October 4th, 1902. Seventeen Students entered their names for the Course.

LECTURES AND DEMONSTRATIONS FOR SANITARY OFFICERS.

The Twenty-third Course of Lectures and Demonstrations for Sanitary Officers commenced on February 3rd, consisting of thirty-two Lectures and eighteen Demonstrations. Over fifty Students have entered their names for the Course.

TWO MONTHS COURSE OF PRACTICAL TRAINING FOR
MEAT INSPECTORS.

for Candidates preparing for the Examination for Inspectors of Meat and other Foods, conducted by the Sanitary Institute.

The Course commenced early in March, and consisted of systematic Practical Training in the inspection of Meat at a Cattle Market, including Demonstration on live cattle and sheep, slaughtering and dressing of animals, names and situations of the organs, diseases of animals, methods of stalling, arrangement of markets and byres, etc.

Demonstration was also arranged at a knackers' yard, where instruction regarding the flesh and organs of the horse was given.

Nineteen Students entered their names for the Course.

EXAMINATIONS.

From January to April the following examinations were held:—

PRACTICAL SANITARY SCIENCE.

March 7th and 8th, Edinburgh, 1 Candidate.

INSPECTORS OF NUISANCES.

February 14th and 15th, Plymouth. 34 Candidates, 19 Certificates granted.

March 7th and 8th, Edinburgh. 37 Candidates, 19 Certificates granted.

CANDIDATES WHO HAVE RECEIVED CERTIFICATES,
JANUARY—APRIL, 1902.

Inspectors of Nuisances.

1902, Mar. 8. ALEXANDER, WILLIAM STEWART PEDDIE.
 1902, Feb. 15. BADCOCK, FRANK JACKSON.
 1902, Feb. 15. BAILEY, JOHN HENRY.
 1902, Feb. 15. BAKER, ALFRED OWEN.
 1902, Feb. 15. BATEMAN, JOHN GILBERT.
 1902, Feb. 15. L CALVER, Miss CONSTANCE MAUD ELIZA.
 1902, Feb. 15. COLLINS, ARTHUR EDWARD.
 1902, Mar. 8. CORDINER, JOHN.
 1902, Feb. 15. CRABB, HENRY RALPH.
 1902, Feb. 15. DAVY, FRANCIS EDMUND.
 1902, Feb. 15. DAWE, WILLIAM HENRY.
 1902, Feb. 15. DUNNING, ALFRED.
 1902, Mar. 8. ESPLIN, JOSEPH.
 1902, Mar. 8. FORREST, ALEXANDER.
 1902, Mar. 8. FORSYTH, THOMAS.
 1902, Mar. 8. HAMILTON, ALEXANDER.
 1902, Feb. 15. HARCOURT, ARTHUR PERCIVAL.
 1902, Feb. 15. HEPPLE, THOMAS.
 1902, Feb. 15. HILL, PERCY HARRY.
 1902, Mar. 8. HOWIE, ARCHIBALD.
 1902, Mar. 8. LOGIE, ALEXANDER.
 1902, Feb. 15. MADGE, JOHN SAMUEL.
 1902, Mar. 8. L MARTIN, Miss E. MARY.
 1902, Mar. 8. MCBETH, WILLIAM EWART.
 1902, Mar. 8. MELVIN, JOHN.
 1902, Mar. 8. MILLAR, ALEXANDER.
 1902, Feb. 15. NENER, JOHN.
 1902, Feb. 15. PACKWOOD, GEORGE HENRY.
 1902, Feb. 15. RANDLE, GEORGE THOMAS.
 1902, Mar. 8. ROBERTSON, DANIEL.

- 1902, Mar. 8. RODGER, WILLIAM.
 1902, Mar. 8. SCOTT, THOMAS FERGUSON.
 1902, Feb. 15. SPRIDDLE, SYDNEY ROBERT GEORGE.
 1902, Mar. 8. SWINNEY, WILLIAM DIXON.
 1902, Mar. 8. L. TOWNEND, MISS ANNIE.
 1902, Mar. 8. WEIR, THOMAS LOGAN.
 1902, Mar. 8. WILSON, WILLIAM MUIR.
 1902, Feb. 15. WORDEN, FRANCIS JAMES.

Examination Questions.

Practical Sanitary Science.—Edinburgh, March 7th and 8th, 1902.

1. What is meant by the relative humidity of the atmosphere, and how is it measured? What degrees of relative humidity would you expect to find during the height of summer in such places as Cairo and London respectively? What is the importance of this relative humidity from a health point of view?
2. What causes the natural movements of the air? How is the velocity measured, and how is the equivalent pressure determined?
3. The water supplies for three districts are derived respectively from (a) surface water from moorland; (b) a shaft sunk in the mountain limestone; (c) a stream supplied by springs from the chalk. State the characteristics of these several waters.
4. What diseases have been believed to be associated with "ground water"? State fully what you know about three of them in this relation.
5. What are the chief points you would bear in mind in reference to suitability of site for (a) infectious disease hospital; (b) cemetery.
6. Sketch the general arrangement of the apparatus for producing and conveying hot water to bath, lavatory, kitchen, sink, and house-maid's closet, in a small house.
7. What is the relation between gradient, volume, velocity, and size, in sewers?
8. State what materials are used for damp-proof courses, and give a sketch and description showing how an underground chamber in water-logged land may be constructed so as to be perfectly dry. What arrangements should be made with regard to the flooring?

The Candidates were examined vivâ voce on the 8th.

Inspector of Nuisances.—Plymouth, February 14th and 15th, 1902.

1. What are the provisions of the Sale of Food and Drugs Acts which deal with the labelling of—margarine, margarine cheese, condensed separated milk, milk vessels?
2. How often should house refuse be removed? Give any instructions for minimising the nuisance connected with the storage and removal of house refuse.

3. Mention half-a-dozen defects commonly found in dwelling houses which may be remedied by procedure under the Public Health Act, 1875. Describe the remedies.

4. What facts with reference to a smoke nuisance should be entered in the Sanitary Inspector's Report Book.

5. Contrast the sanitary advantages and drawbacks, of the following materials for roof coverings: Slates, Brosely tiles, zinc, lead, thatch, corrugated iron, Willesden paper, tarred felt.

6. What is understood by (a) subsoil water; (b) deep well water; and (c) spring water? How may the yield be ascertained in each case?

7. How would you proceed to collect a sample of well water for analysis, and what facts should be recorded as to the source of the sample?

8. Give sketches of three different forms of drain traps, and describe the advantages and drawbacks of each kind, and the circumstances in which each would be used.

The Candidates were examined vivâ voce on the 15th.

Inspector of Nuisances.—Edinburgh, March 7th and 8th, 1902.

1. How was the practice of disinfection under the Public Health Act, 1875, modified by the Infectious Diseases Prevention Act, 1890?

2. What do you understand by superheated and by saturated steam? What kind of disinfector would you recommend for (a) a large manufacturing town; (b) a poor rural district? Give your reasons.

3. Give a list of the offensive trades enumerated in section 112 of the Public Health Act, 1875. How would you proceed to the abatement of a nuisance arising from fish-frying?

4. Give the cubic contents of an attic room, the floor area of which is 13 ft. 6 in. \times 18 ft. The room has a flat ceiling 9 ft. from the floor, but the roof slopes on all sides with a pitch of 45° to meet the walls at a height of 6 ft. from the floor.

5. Give a précis of the model bye-laws regulating the amount of open air-space about new dwellings.

6. Under what circumstances is it necessary to provide for the storage of water in houses? what are the attending risks? and how may these be guarded against?

7. Describe the laying of a drain through a water-logged soil, and illustrate your answer by sketches. Of what materials may drains be constructed?

8. Indicate the nature of the usual headings or headlines to the pages of the Nuisance Register or Nuisance Report Book.

The Candidates were examined vivâ voce on the 8th.

FORTHCOMING MEETINGS OF THE INSTITUTE.

INSTITUTE CORONATION DINNER.

The Council have arranged to hold the Dinner of the Institute this year in the month of June, and, in order to associate it with the Coronation of His Majesty King Edward VII., to call it the Institute Coronation Dinner.

His Royal Highness the Duke of Cambridge, K.G., President of the Institute, being unable to attend, His Grace the Duke of Northumberland, K.G., Vice-President, has consented to take the Chair.

The Dinner will be held on Monday, June 2nd, in the Venetian Room, Midland Grand Hotel.

The price of Tickets for Members of the Institute and Visitors is (including wine) £1 1s. each; (without wine) 10s. 6d.

THE NINETEENTH CONGRESS.

will be held at Manchester from September 9th to 13th, 1902.

PRELIMINARY ARRANGEMENTS.

Rt. Hon. EARL EGERTON OF TATTON, *President*.

Lecture to the Congress.

Popular Lecture. By W. J. COLLINS, M.D., B.SC., F.R.C.S., D.L., J.P.

Sect. I.—Sanitary Science and Preventive Medicine.

Sir JAMES CRICHTON BROWNE, M.D., LL.D., F.R.S., *President*.

Section II.—Engineering and Architecture. Sir ALEXANDER BINNIE, M.INST.C.E., *President*.

Section III.—Physics, Chemistry and Biology. Prof. A. SHERIDAN DELEPINE, M.B., C.M., B.SC., *President*.

CONFERENCES.

Municipal Representatives. ALD. ALEXANDER McDougall, J.P., Manchester, *President*.

Port Sanitary Authorities.

Medical Officers of Health. JAMES NIVEN, M.A., M.B., M.O.H., Manchester, *President*.

Engineers and Surveyors to County and other Sanitary Authorities. CHARLES JONES, M.INST.C.E., Borough Engineer, Ealing, *President*.

Veterinary Inspectors. W. AUGUSTUS TAYLOR, F.R.C.V.S.,
Manchester, *President*.

Sanitary Inspectors. W. BLAND, Inspector of Nuisances,
Barton-upon-Irwell, *President*.

Ladies on Hygiene.

Hygiene of School Life. Prof. C. S. SHERRINGTON, M.A.,
M.D., F.R.S., Liverpool, *President*.

LOCAL OFFICERS :

Chairman of Local Committee, Rt. Hon. LORD MAYOR OF MAN-
CHESTER.

Vice-Chairman, ALD. ALEXANDER McDOUGALL, J.P.

Treasurer, G. H. GADDUM, J.P.

Hon. Local Sec., J. H. REYNOLDS, Municipal School of Technology,
Manchester.

Meetings will be held partly at Owens College and partly at Municipal School of Technology, in which accommodation has been kindly offered respectively by the Authorities.

PAPERS AND DISCUSSIONS.

The Council invite Papers on subjects relating to Health and Sanitary Science. Papers are limited to twenty minutes in reading. A short abstract must accompany every paper, both for the convenience of the Press at the Congress and for insertion, subject to the approval of the Council, in the Journal of the Institute, should it not be deemed desirable to publish the Paper *in extenso*. No previously published Paper can be read. The acceptance of Papers, and the days on which they are to be read, are determined by the Council before the beginning of the Meeting. The Council reserve the right of refusing any Papers sent in; and in the case of those accepted, the reading of them must depend on the time at the disposal of the Meeting. Papers read at the Congress cannot be published by the Authors, except by permission of the Council. The Council reserve to themselves the privilege of printing any Paper read at the Congress, either wholly or in part, or of refraining from the publication thereof, if they see fit.

The Addresses and Papers or Abstracts thereof are usually printed by the Institute in London before the meeting of the Congress, and copies can be obtained in the Reception Room. Authors should forward their manuscript by post *as early as possible, and in any case not later than August 9th*, addressed to the Secretary, Sanitary Institute, Margaret Street, London, W.

SUBJECTS SUGGESTED FOR DISCUSSIONS OR PAPERS.

Labourers' Dwellings.
Municipal Lodging Houses.
Cottages for Agricultural Labourers.

Public Slaughter-Houses.
Control and Inspection of Imported Meat.
Guarantees for the Purity of Milk Supplies.
Diseases of Animals Conveyed by Milk.
Preservatives in Butter and Milk.

Difficulties of Dealing with Tuberculosis in Cattle.
Recognition and Isolation of Pulmonary Tuberculosis.
The Construction of the Sanatoria for Tuberculosis.

Tropical Diseases.
Precautions against the Importation of Plague into Europe.
Precautions against the Importation of Infectious Maladies from Abroad.
The Dealing with "Contacts" in the case of Small-pox.
Improvements in the Methods and Practice of Disinfection.
Enteric Fever in Armies in the Field.
Vaccine Lymph.

Sanitation of Passenger Ships.
Isolation Hospitals.

Drainage of Buildings possessing no Open Space.
Ventilation of Sewers.
Biological Purification of Sewage.
Chemical Purification of Sewage.
Standards of Purity for Sewage Effluents.
Purification of Trade Effluents.
Disposal of Towns Refuse.
Smoke Abatement.
The Sanitation of Road Traffic.

Village Water Supplies.
The Collection and Storage of Flood-Waters and the Purification of such Waters.

Practical Hygiene Teaching in Schools.
Care of the Eyes of School Children.
Infantile Mortality in England and its Reduction.
Health Aspects of Occupations for Women.
Work of Women Health Missioners.
The Value to Teachers of Recognised Certificates in Hygiene.
The Church's Duty in respect to Sanitation.
Lead Poisoning in the Pottery Manufacture.
Granting of Sanitary Certificates by Sanitary Authorities.
Teaching of Sanitation in Municipal Technical Schools.
The Provision of Cheap Dining Rooms for Work Girls.

EXHIBITION.

An Exhibition of Apparatus and Appliances relating to Health and of Domestic use will be held in connection with the Congress from September 9th to the 27th.

The Government, County Councils, Corporations, and Local Authorities, who have up to the present appointed Delegates to the Congress.

GOVERNMENT DEPARTMENT.

Board of Education and Geological Survey.

COUNTY COUNCILS (17).

Aberdeen.	Glamorgan.	Staffordshire.
Buckingham.	Kesteven.	Stewartry and Kircudbright.
Cheshire.	Lancashire.	Warwickshire.
Denbighshire.	Lindsey, Lincolnshire.	West Suffolk.
Elgin.	Merioneth.	Worcestershire.
Essex.	Northumberland.	

COUNTY BOROUGHs (29).

Birkenhead.	Dublin.	Preston.
Birmingham.	Glasgow.	Rochdale.
Bolton.	Hanley.	Sheffield.
Bournemouth.	Huddersfield.	Stockport.
Bradford.	Leeds.	Sunderland.
Brighton.	Leicester.	Wigan.
Bristol.	Liverpool.	West Ham.
Bury.	Newcastle-upon-Tyne.	Wolverhampton.
Cardiff.	Oldham.	Worcester.
Croydon.		York.

METROPOLITAN BOROUGHs (6).

	London, City of.	
St. Marylebone.	Southwark.	Westminster, City of.
St. Pancras.	Stoke Newington.	

URBAN DISTRICT COUNCILS OR SANITARY AUTHORITIES (77).

Batley.	Flint.	Oxenhope.
Beaumaris.	Folkestone.	Oystermouth.
Blackpool.	Frome.	Penzance.
Blackrock.	Gateshead.	Prestwich.
Brierley Hill.	Glossop.	Pudsey.
Brighouse.	Harwich.	Reigate.
Broughton Ferry.	Heaton Norris.	Richmond (Surrey).
Buxton.	Hebden Bridge.	Rochester.
Cambridge.	Holyhead.	Rotherham.
Carlisle.	Hove.	Royal Leamington Spa.
Cheadle and Gatley.	Hyde.	Runcorn.
Chelmsford.	Ilkley.	Scarborough.
Cheltenham.	Jarrow.	Scunthorpe.
Chipping Norton.	Kearsley.	Southall-Norwood.
Chiswick.	Leigh.	Stoke-upon-Trent.
Chorley.	Leith.	Stretford.
Crompton.	Lewes.	Tipton.
Crewe.	Lisburn.	Tonbridge.
Denbigh.	Llangefni.	Tottenham.
Dunkinfield.	Longton.	Warrington.
Ealing.	Loughborough.	Wenlock.
Earsdon.	Midsomer Norton.	Whitstable.
Eastbourne.	Newburn.	Whitworth.
Erith.	Newport Pagnell.	Widnes.
Featherstone.	Nuneaton and Chilvers	Winsford.
Fenny Stratford.	Coton.	Wimbledon.

RURAL DISTRICT COUNCILS (17).

Andover.	Epsom.	Lanchester.
Blackwell.	Garstang.	Naas.
Bourne.	Glanford Brigg.	Nantwich.
Bucklow.	Keighley.	Runcorn.
Cannock.	Kiveton.	Settle.
Cuckfield.		Solihull.

PORT SANITARY AUTHORITIES AND OTHERS (8).

Leigh and Atherton Joint Sewerage Board.
 London Port Sanitary Authority.
 Manchester Municipal School of Technology.
 Mersey and Irwell Joint Committee.
 Metropolitan Asylums Board.
 Ribble Joint Committee.
 Salford Technical Instruction Committee.
 West Riding of Yorks Rivers Board.

SCHOOL BOARDS (3).

Bradford.	Halifax.	London.
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Societies who have appointed Delegates to the Congress.
 (38).

Anderson's College Medical School.
 Architectural Association.
 Catholic University School of Medicine, Ireland.
 Childhood Society.
 Church Sanitary Association.
 Clinical Society of London.
 Eastern Counties Veterinary Medical Society.
 Geological Society.
 Guy's Hospital Medical School.
 Institute of Marine Engineers.
 Institution of Civil Engineers of Ireland.
 Jenner Institute of Preventive Medicine.
 Manchester Society of Architects.
 Medico-Psychological Association.
 Middlesex Hospital.
 Midland Counties Institution of Engineers.
 Pharmaceutical Society of Great Britain.
 Northern Architectural Association.
 Queen Margaret College, Glasgow.
 Queen's College, Cork.
 Royal College of Physicians, Ireland.
 Royal College of Physicians of London.
 Royal College of Surgeons, Ireland.
 Royal Institute of British Architects.
 St. George's Hospital Medical School.
 Sanitary Inspectors' Association.
 Sanitary Inspectors' Association, Yorkshire Branch
 Society of Architects.
 Society of Chemical Industry.
 Society of Engineers.
 Society of Medical Officers of Health.
 Society of Medical Officers of Health, Yorkshire Branch.
 University College, London.
 University of Aberdeen.
 University of Durham College of Medicine.
 University of Glasgow.
 University of London.
 University of St. Andrews.

CALENDAR, APRIL TO JULY, 1902.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Congress and Editing Committee } Monday in the week preceding the
Exhibition Committee . . . } Council, at 4 p.m. and 5 p.m.

Museum and Library Committee Tuesday in the week preceding the Council, at 5 p.m.

Special Purposes Committee . . . } Wednesday in the week preceding
Finance Committee . . . } the Council, at 4 p.m. and 5 p.m.

Examination Committee . . . Fourth Thursday in January, April, October, 5 p.m.

Parliamentary Committee . . .
Rivers Pollution Committee . . .
Meat Inspectors Examination Committee . . . } As occasion requires.

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.

APRIL.

- 4 F. Lecture to Sanitary Officers at 7 p.m. Sewerage, by Jno. Ed. Worth, M.INST.C.E.
- 5 S. Inspection and Demonstration at the Sewage Outfall Works, Barking, at 3 p.m., conducted by J. E. Worth, M.INST.C.E., District Engineer.
- 7 M. Lecture to Sanitary Officers at 7 p.m. Sewage Disposal, by Jno. Ed. Worth.
- 9 W. Inspection and Demonstration in the District of Islington and at the Borough Disinfecting Station, at 2 p.m., conducted by James R. Leggatt, Supt., Public Health Dept., Islington.
- 9 W. Lecture to Sanitary Officers at 7 p.m. Scavenging, Disposal of House Refuse, by Jno. Ed. Worth, M.INST.C.E.
- 9 W. Sessional Meeting at 8 p.m. Prevention of Malaria, by Patrick Manson, C.M.G., M.D., LL.D., F.R.C.P., F.R.S. The chair will be taken by R. FARQUHARSON, M.D., LL.D., M.P.
- 11 F. Lecture to Sanitary Inspectors at 7 p.m. Signs of Health and Disease in Animals destined for Food, when alive and after slaughter, Tuberculin and other Tests, by W. Hunting, F.R.C.V.S.

- 11 F. } Examination in Practical Sanitary Science and for Inspectors of
- 12 S. } Nuisances, Birmingham.
- 12 S. Lecture to Sanitary Officers, Leeds, at 3 p.m. Sanitary Building Construction and Inspection of Materials, by Keith D. Young, F.R.I.B.A.
- 12 S. Inspection and Demonstration at Sewage and Destructor Works, Ealing, at 2.15 p.m., conducted by C. Jones, M.INST.C.E., Borough Engineer.
- 14 M. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by W. Hunting, F.R.C.V.S.
- 16 W. Inspection and Demonstration at Harrison and Barber's Knackers' Yard, Winthrop Street, E.C.
- 16 W. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.
- 18 F. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.
- 19 S. Outdoor Demonstration for Sanitary Officers at Bradford, conducted by W. Arnold Evans, M.D., M.O.H., Bradford.
- 19 S. Inspection and Demonstration at Morden Hall Dairy Farm, Morden, Surrey, at 3 p.m., conducted by Oscar J. White.
- 21 M. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other Food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption; Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.
- 22 Tu. Inspection and Demonstration at the Metropolitan Cattle Market, Islington, at 3 p.m., conducted by James King, M.R.C.V.S., Veterinary Inspector.
- 23 W. Lecture to Sanitary Officers at 7 p.m. The Hygiene of Byres, Lairs, Cow Sheds, and Slaughter Houses, and all places where animals destined for the supply of food are kept, and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for sale, and transported, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.
- 25 F. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the inspection and sale of Meat and other articles of Food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D., D.P.H., Medical Inspector Local Government Board.
- 26 S. Lecture to School Teachers at Bedford College, at 11 a.m. Infectious Diseases: Laws thereon, Duties of School Teachers, by W. H. Willcox, M.D., D.P.H.
- 26 S. Lecture to Sanitary Officers, Leeds, at 3 p.m. Practical Disinfection, by S. G. Moore, M.B., M.O.H., Huddersfield.

MAY.

- 2 F.) Examinations in Practical Sanitary Science and for Inspectors of
- 3 S.) Nuisances, London.
- 3 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. School Accidents, by W. H. Willcox, M.D., D.P.H.
- 3 S. Outdoor Demonstration for Sanitary Officers at Huddersfield, conducted by S. G. Moore, M.B., M.O.H., Huddersfield.

- 9 F. } Examination for Inspectors of Meat and other Foods, London.
 10 S. }
 10 S. Lecture to School Teachers at Bedford College, at 10.30 a.m. Disinfectants and Disinfection, by W. H. Willcox, M.D., D.P.H.
 17 S. Lecture to School Teachers at The Parkes Museum, at 10 a.m. Construction and Furnishing of Schools, by H. R. Kenwood, M.B., D.P.H.
 24 S. Lecture to School Teachers at The Parkes Museum, at 10 a.m. Construction and Furnishing of Schools, by H. R. Kenwood, M.B., D.P.H.
 31 S. Lecture to School Teachers at The Parkes Museum, at 10 a.m. Construction and Furnishing of Schools, by J. Osborne Smith, F.R.I.B.A.

JUNE.

- 2 M. Institute Coronation Dinner, at the Midland Grand Hotel, at 7 p.m.
 6 F. } Examination in Practical Sanitary Science, for Inspectors of Nuisances, and in Practical Hygiene for School Teachers, Leeds.
 7 S. }
 14 S. Lecture to School Teachers at The Parkes Museum, at 10 a.m. Construction and Furnishing of Schools, by J. Osborne Smith, F.R.I.B.A.
 21 S. Lecture to School Teachers at The Parkes Museum, at 10 a.m. Construction and Furnishing of Schools, by J. Osborne Smith, F.R.I.B.A.
 20 F. } Examinations in Practical Sanitary Science and for Inspectors of
 21 S. } Nuisances, Belfast.

JULY.

- 4 F. } Examinations in Practical Sanitary Science and for Inspectors of
 5 S. } Nuisances, Liverpool.
 11 F. } Examination for Inspectors of Meat and other Foods, Liverpool.
 12 S. }
 25 F. } Examination in Practical Sanitary Science and for Inspectors of
 26 S. } Nuisances, Cardiff.

MEMBERS AND ASSOCIATES ELECTED.

JANUARY TO MARCH, 1902.

(A complete list can be had on application.)

MEMBERS.

* Passed Practical Sanitary Science Examination.

† Passed Inspector of Nuisances Examination.

Reg. No.	Date of Election	
1548	1902. Jan.	BOTTERILL, Chas., ASSOC.M.INST.C.E., <i>Boro' Surveyor and Engineer, Town Hall, Walham Green.</i>
1519	1902. Jan.	†BRACHER, Mrs. L. E., <i>Napier, Hawkes Bay, New Zealand.</i>
1561	1902. Mar.	*CAMM, Edward, <i>Borough Surveyor's Office, Town Hall, Leicester.</i>
1562	1902. Mar.	*DROWN, R. George, <i>75, King's Road, Windsor.</i>
1555	1902. Feb.	*HAYES, George, <i>Assistant Surveyor, Dukinfield.</i>
1556	1902. Feb.	HUTTON, Samuel, <i>Assistant City Surveyor, Guildhall, York.</i>

Reg. No.	Date of Election.	
1531	1902. Jan.	*MANTON, Edwin, <i>Daleside Lodge, Leeds Road, Harrogate.</i>
1552	1902. Jan.	*PURCHON, William Sydney, 26, <i>Cardozo Road, London, N.</i>
1557	1902. Feb.	*SIMM, Ernest, <i>Lower Abbot House, Osbaldstone, Blackburn.</i>
1563	1902. Mar.	STEEGMAN, Edward J., M.B., B.S., D.P.H., <i>Eamont Lodge, Spring Grove, Isleworth.</i>
1550	1902. Jan.	*TUCE, James Edward, c/o Adams & Co., 5 & 7 <i>Old Queen Street, S.W.</i>
1555	1902. Feb.	TURTON, Frederick Wm., <i>Surveyor, Urban District Council, Sedgley.</i>
1559	1902. Feb.	WALROND, Theodore Charles, ASSOC.M.INST.C.E., <i>Albany Building, Trowbridge (47, Victoria St., S.W.)</i>
1553	1902. Jan.	WALTEBS, John Tudor, <i>Architect and Surveyor, 22, Friar Lane, Leicester.</i>
1560	1902. Feb.	WILLIAMS, Herbert, M.D., D.P.H., 44, <i>King William Street, Greenwich.</i>
1554	1902. Jan.	WYLIE, Adam Storer, F.I.C., 93, <i>Manchester Street, Oldham.</i>

ASSOCIATES.

‡ Passed Examination for Inspectors of Nuisances.

M Marked thus have passed the Examination of the Institute for Inspectors of
Meat and Other Foods.

2130	1902. Jan.	‡ANDERSON, Arthur, 114, <i>Gascoigne Road, Barking, Essex.</i>
2151	1902. Feb.	‡ARNOLD, Miss Louisa Lucy Hester, <i>Eda Vale, Murrayfield, Edinburgh.</i>
2150	1902. Mar.	‡BAENARD, George William, <i>Vale Road, Portslade.</i>
2131	1902. Jan.	‡BARR, John, M.R.C.V.S., <i>Acle, Norfolk.</i>
2190	1902. Mar.	‡BEESTON, Miss Edith Isabel, 14, <i>Stradella Road, Herne Hill.</i>
2133	1902. Jan.	‡BRADSHAW, Timothy, 4, <i>Alexandria Villa, Victoria Park, Dorchester.</i>
2160	1902. Feb.	‡BROCKLEHURST, Augustus Cooke, 600, <i>Oldham Road, Failsworth.</i>
2161	1902. Feb.	‡CLARE, Thomas Alfred, <i>Rose Villa, Culcheth, near Warrington.</i>
2162	1902. Feb.	‡COOPER, Edgar Arthur, 11, <i>Ethel Terrace, Levenshulme.</i>
2132	1902. Jan.	‡COULSON, William John, <i>Redeswood, Bellingham, Northumberland.</i>
2163	1902. Feb.	‡CUDWORTH, Frank, 8, <i>Shrewsbury Road, Hightown, Wrexham.</i>

Reg. No.	Date of Election.	
2509	1902. Mar.	‡DAVIES, William, 27, <i>Gilli Rd., Pentre, Rhondda.</i>
2164	1902. Feb.	‡DAVIS, Charles Edward, <i>Newtown, Woolston, Southampton.</i>
2491	1902. Mar.	‡DOWELL, John Edward, 54, <i>Station Rd., Hounslow.</i>
2134	1902. Jan.	‡DRAPER, William Homer, 1, <i>Wivenhoe Road, Peckham.</i>
2452	1902. Feb.	‡DUNWORTH, James, 23, <i>Hunsden Road, New Cross.</i>
2435	1902. Jan.	‡ELLIOTT, George Joseph, <i>Bardsley, Ashton-under-Lyne.</i>
2165	1902. Feb.	‡ENGLAND, Tom, <i>Pakefield, Suffolk.</i>
2436	1902. Jan.	‡EVANS, John Dorsett, <i>Bôd Gwylm Llansantffraid.</i>
2108	1902. Feb.	‡FAIRBROTHER, William Thomas, 85, <i>Marion Street, Birkenhead.</i>
2167	1902. Feb.	‡FAIRCHILD, George Bryant, <i>Hunshow, Little Torrington.</i>
2169	1902. Feb.	‡FIRBY, Alfred James, <i>Inspector of Nuisances, Sandwich.</i>
2169	1902. Feb.	‡FITT, Arthur Hemming, 122, <i>Mount Pleasant Road, Hastings.</i>
2170	1902. Feb.	‡FRITH, Vincent, <i>Polsham, near Wells.</i>
2437	1902. Jan.	‡FROES, Herbert Francis, 5, <i>Gloucester Road, Teignmouth.</i>
2301	1902. Mar.	‡GEORGE, Ivor E. G., <i>Ffynnoncoranan Farm, Rhos-hill, Pembrokeshire.</i>
2171	1902. Feb.	‡GREEN, Frederick John Albert, 418, <i>Leigh Road, Westhoughton, Bolton.</i>
2172	1902. Feb.	‡GREENWAY, Samuel, 74, <i>High Street, Tarporley.</i>
2492	1902. Mar.	‡HALLSTONE, Thomas Henry, 10, <i>Beehive Road, Sheffield.</i>
2173	1902. Feb.	‡HANSON, Jesse, 27, <i>Rebecca Street, Bradford.</i>
2193	1902. Mar.	‡HARVELL, Reginald James, 26, <i>Glaskin Road, South Hackney, N.E.</i>
2474	1902. Feb.	‡HAWKINS, Herbert William, <i>Haydn House, Fletton, Peterborough.</i>
2453	1902. Feb.	‡HAYNES, Charles, 2, <i>Cobden Street, Bedford.</i>
2438	1902. Jan.	‡HEWITT, Joseph, <i>Village Street, Normanton, by Derby.</i>
2439	1902. Jan.	‡HIGHAM, John, <i>Shaw Brow, Whittle-le-Woods, near Chorley.</i>
2175	1902. Feb.	‡HILL, William Alfred Charles, 184, <i>Mile End Road, South Shields.</i>
2454	1902. Feb.	‡HILLYARD, Morris John James, 6, <i>William Street, Barking, E.</i>
2476	1902. Feb.	‡HIRST, Fred., 5, <i>Crow West Terrace, Westtown, Dewsbury.</i>
2494	1902. Mar.	‡HUDSON, Frederick Horace, 38, <i>Agamemnon Road, West Hampstead.</i>
2440	1902. Jan.	‡JAMES, Alfred James, 8, <i>Ashton Road, Lancaster.</i>
2495	1902. Mar.	‡JAKES, Ernest, 109, <i>Durnford Street, Middleton.</i>
2505	1902. Mar.	KEMP, Solomon Henry, <i>Town Hall, Port Elizabeth.</i>
2455	1902. Feb.	‡KIRBY, Charles W., 92, <i>Jefferson Street, Goole.</i>

Reg. No.	Date of Election.	
2477	1902. Feb.	‡KIRKUP, William, 108, <i>Waddow New Road, Croydon.</i>
3496	1902. Mar.	‡LEANEY, Miss Georgiana, 428, <i>Birkbeck Bank Chambers, W.C.</i>
2506	1902. Mar.	‡LOVE, George, <i>Stamford House, Chadwell Rd., Grays</i>
2178	1902. Feb.	‡MACFARLANE, Malcolm, 109, <i>Glasgow Road, Dumbarton.</i>
2179	1902. Feb.	‡MALINS, Maurice, 1, <i>Wilton Road, Sparkhill, near Birmingham.</i>
2180	1902. Feb.	‡MILES, Harvey John, <i>The Villa, Greenold, near Ulverston.</i>
2150	1902. Feb.	‡OPENSHAW, William Pilling, 140, <i>Hornby Street, Bury.</i>
2481	1902. Feb.	‡PARIS, Frederick John, 22, <i>Waterloo Street, Balmain, Sydney.</i>
2441	1902. Jan.	‡PLEDGE, Charles Richard, 7, <i>Beckenham Road, Penge, S.E.</i>
2443	1902. Jan.	‡PUCKLE, Raymond Aufrère, 19, <i>de Crespigny Park, Denmark Hill, S.E.</i>
2497	1902. Mar.	‡PURSEY, Charles, <i>Town Hall, Bridgwater.</i>
2462	1902. Feb.	‡RANDERSON, Leonard, 51, <i>Briardale Road, Birkenhead.</i>
2510	1902. Mar.	‡ROBERTS, Fred, 106, <i>Shaftesbury St., Newport, Mon.</i>
2183	1902. Feb.	‡MROBERTS, John, 43, <i>Myddleton Road, Leyton.</i>
2198	1902. Mar.	‡ROBINSON, Tom, <i>Municipal Buildings, Heywood, Lancs.</i>
2181	1902. Feb.	‡RUSSELL, John, 102, <i>Brodrick Street, South Shields.</i>
2499	1902. Mar.	‡SCOBBLE, Ernest Alfred, 60, <i>Dacre Street, Lee, S.E.</i>
2500	1902. Mar.	‡SCORER, James Mearns, 333, <i>Kennington Road, Lambeth, S.E.</i>
2445	1902. Jan.	‡SCOTT, Walter, 7, <i>Battenburg Road, Richmond.</i>
2446	1902. Jan.	‡SEDEN, James Leonard, 1, <i>Hoe Lane, Ware.</i>
2441	1902. Jan.	‡SHELLEY, William Lincoln, 66, <i>Barrington Road, Brixton, S.W.</i>
2447	1902. Jan.	‡SILLS, Frederick Joseph, 27, <i>Nelson Street, Luton, Beds.</i>
2448	1902. Jan.	‡SILLS, Joseph Howard, 49, <i>Angerstem Road, North End, Portsmouth.</i>
2501	1902. Mar.	‡SKELTON, Richard Allinson, 69, <i>Willows Lane, Accrington.</i>
2427	1902. Feb.	‡SUGDEN, William, 75, <i>Oak Lane, Manningham, Bradford.</i>
2502	1902. Mar.	‡SUTTON, George Jay, <i>City Engineer's Office, Norwich.</i>
2485	1902. Feb.	‡TAIT, William, <i>Ironside, Deva House, Newmarket.</i>
2503	1902. Mar.	‡TAYLOR, John, 3, <i>Camden Street, Nelson.</i>
2480	1902. Feb.	‡WEST, William Pennyfather, 53, <i>Winchelsea Road, Tottenham, N.</i>
2458	1902. Feb.	‡WHEATLEY, Mrs. A. A., 16c, <i>Buer Road, Fulham, S.W.</i>

Reg. Date of
No. Election.

- 2137 1902. Feb. ‡WIDGER, George Henry William, 5, *Castle Street, Totnes.*
- 2550 1902. Jan. ‡WIGG, Frederick Arthur, *Sanitary Inspector, Lowestoft.*
- 2449 1902. Jan. ‡WILSON, George William, 57, *Median Road, Clapton, N.E.*
- 2507 1902. Mar. WINGFIELD, Samuel William, 15, *Fermoy Road, Paddington.*
- 2508 1902. Mar. ‡WOOD, James, 4, *Church Path, Maindee, Newport.*
- 2459 1902. Feb. ‡WOOD, Thomas, *Windermere Road, Kendal.*
- 2442 1902. Jan. ‡WORMLEIGHTON, George Alfred, 11, *Handley Road, Victoria Park Road, South Hackney.*
- 2188 1902. Feb. ‡WYNNE, William, *Surveyor and Sanitary Inspector, Bude, Cornwall.*

CONTRIBUTIONS AND ADDITIONS TO LIBRARY

JANUARY TO MARCH, 1902.

*** For publications of *Societies and Institutions, &c.*, see under "Academies."

ACADEMIES (BRITISH).

- Cardiff, South Wales.** *University College of.* The Calendar, 1901-2. 467 pp., 8vo. Cardiff, 1902. *The Registrar.*
- London.** *British Association of Waterworks Engineers.* Transactions, Vol. VI., 1901; with Subject-Index, Vol. I.-VI. 223 pp., 8vo. London, 1902. *The Association.*
- *Incorporated Association of Municipal and County Engineers.* Proceedings, Vol. XXVII., 1900-1901. 362 pp., 8vo. London, 1901. Proceedings of Section VII. (Municipal), International Engineering Congress (Glasgow), 1901. 155 pp., 8vo. London, 1901. *The Association.*
- *Institution of Mechanical Engineers.* Proceedings, September, 1901, Meeting at the International Engineering Congress, Glasgow, 1901, Section III. (Mechanical). 241 pp., 8vo. London, 1902. *The Institution.*
- *Medical Society of.* Transactions: Vol. XXIV. 310 pp., 8vo. London, 1901.
- *Royal Statistical Society.* Journal: Vol. LXIV., Part IV. December 31st, 1901. 243 pp., 8vo. London, 1901. *The Society.*

Austin, Evans, M.A., LL.D. The Law relating to Factories and Workshops (The Factory and Workshop Act, 1901), with appendix, containing the Special Rules under the Factory Acts, 1891 and 1895. The Truck Acts, 1831-1896. The Shop Hours Acts,

- 1892-1895, with Notes. The Text of the Workmen's Compensation Acts, 1897 and 1900, &c. 464 pp., 8vo. London, 1901.
Knight & Co. (publishers).
- Baker, M. N., Ph.B.** Municipal Engineering and Sanitation. 315 pp., 8vo. New York, 1902. *The Macmillan Co. (publishers).*
- Berne.** Annuaire Statistique de la Suisse. 367 pp., 8vo. Berne, 1901.
 ——— Statistique de la Suisse, 133^e Livraison. Mouvement de la Population de la Suisse pendant l'année 1900. 32 pp., 4to. Berne, 1902.
 ——— Index Alphabétique. Tomes I. à X. (1891-1901). 94 pp., 8vo. Berne, 1901.
 ——— La Population des Communes de la Suisse. 31 pp., 4to. Berne, 1901. *Bureau de Statistique.*
- Bertin-Sans, Dr. H.** L'Habitation, procédés de recherche et de contrôle. L'emplacement de l'habitation. 224 pp., 8vo. Paris, 1902. *Baillière et Fils (publishers).*
- Bide-Uhagon.** Memoria acerca del estado y Progreso de las Obras de Saneamiento de la I. Ville da. 1897 à 1898, 1898 à 1899. 4to. Bilbao, 1898, 1899. *T. A. Greenhill.*
- Board of Agriculture.** Agricultural Returns, 1901: Tables showing the estimated total produce and average yield per acre of the principal crops; with particulars for each county of Great Britain, and a summary for the United Kingdom. 27 pp., 8vo. London, 1902. *The Board.*
- British Columbia.** Provincial Board of Health. Tuberculosis; Instructions and Suggestions issued under the authority of the Board. 8 pp., 4to. Victoria, B.C., 1901. *C. J. Fagan (Secretary).*
- Brussels International Conference, 1899.** Preventive Medicine, by an English Member of the Conference. Second Edition. 25 pp., 8vo. London, 1901.
 ——— *Ministère de l'Industrie et du Travail.* Les Filatures de Lin: Etude d'Hygiène professionnelle. 463 pp., 8vo. Bruxelles, 1902. *Dr. D. Glibert.*
- Cardiff and County Public Health Laboratory.** Second Annual Report of the Bacteriologist, W. G. Savage, M.D., B.Sc., D.P.H., for the year 1901. 8 pp., 4to. Cardiff, 1902. *The Author.*
- Elsden, J. V., B.Sc., F.G.S.** "The Quarry" collection of Building Stones. 13 pp., 8vo. Reprint from "The Quarry," Jan., 1902. *The Author.*
- Gaches, L., LL.M., B.A.** A guide to the Public Health Acts, 1875 and 1890, and the Local Government Acts, 1888 and 1894, with the incorporated Acts relating to Urban and Rural District Councils, together with the Private Street Works Act, 1892. 607 pp., 8vo. London, 1902. *The Publishers (Eyre & Spottiswoode).*
- Glasgow.** Census, 1901: Report on Glasgow, its Sanitary Districts and Municipal Wards, by A. K. Chalmers, M.D. 65 pp., fcp. Glasgow, 1902. *The Author.*
- Conference on Cheap Dwellings, September, 1901. Report of Proceedings. 92 pp., 8vo. Glasgow, 1901. *J. Bowers, Deputy Town Clerk.*

- Griffith, Percy, M.Inst.C.E.** Inaugural Address to Society of Engineers, Feb. 3rd, 1902. 22 pp., 8vo. London, 1902. *The Author.*
- Isler, C.** Well Boring for Water, Brine, and Oil; a Manual of current practice. 195 pp., 8vo. London, 1902. *The Author.*
- Judge, Mark H., A.R.I.B.A.** Sanitary Architecture. 14 pp., 16mo. London, 1901. *The Author.*
- Local Government Board.** Dr. S. W. Wheaton's Report on the Sanitary circumstances of Fishguard and Goodwick in the Haverfordwest Rural District, with special reference to the recent prevalence of Diphtheria in those places. 6 pp., fcp. London, 1901. *W. H. Power, F.R.S.*
- Martin, A. J., Assoc.M.Inst.C.E.** Five Years' Experience of the Septic Tank System. 21 pp., 8vo. Exeter, 1901. *The Author.*
- The Septic Tank System of Sewage Disposal. 16 pp., 8vo. Exeter, 1901. *The Author.*
- Maxwell, W. H., Assoc.M.Inst.C.E.** Destructors and Steam Production. 13 pp., 8vo. Professional paper of the Corps of Royal Engineers (Occasional Papers). Vol. XXVII., Paper V., 1901. *The Author.*

MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

- Acton, 1901** *G. A. Garry Simpson, M.R.C.S.*
- Bucklow (Rural), and Knutsford, Middlewich, Winsford, and Biddulph (Urban), 1901** *T. W. H. Garstang, M.A., D.P.H.*
- Crewe, 1901** *A. Greenwood, M.D., D.P.H.*
- Denbigh (San. Insp.), 1901** . . *W. Windsor, San. Insp.*
- Harrow-on-the-Hill, 1902** . . *J. Fletcher Little, M.D., M.R.C.P.*
- Hereford, 1901** *H. Cecil Moore, M.R.C.S.*
- Kidderminster, 1901** *D. Corbet, M.O.H.*
- Kingston-upon-Thames, 1901** *H. Beale Collins, M.O.H.*
- London County Council, 1900.** *Shirley F. Murphy, M.R.C.S.*
- Lytham, 1901** *J. Cecil Fisher, M.A., M.B.*
- Nuneaton and Chilvers Coton, 1901** *E. Peacock, M.R.C.S.*
- Paignton, 1901** *J. Crathorne, San. Insp.*
- St. Thomas' R.D.C., 1901** . . *M. Farrant, M.R.C.S., D.P.H.*
- Sutton Coldfield, 1901** . . . *A. Bostock Hill, M.D., M.Sc., D.P.H.*
- Torquay, 1901** *P. Q. Karkeek, M.O.H.*
- Wimbledon, 1901** *E. Pocklington, M.O.H.*

- New South Wales.** Report on Leprosy in, for the year 1900. 5 pp., fcp. Sydney, 1901. *J. Ashburton Thompson, M.D.*
- New Zealand.** Department of Public Health. Scarlet Fever, how it

- is spread, and how to prevent it spreading, 6 pp.; Enteric or Typhoid Fever, how it is spread, and how to prevent it spreading, 7 pp.; Tuberculosis and its prevention, 3 pp. By J. Malcolm Mason, M.D. 8vo. Wellington, 1901.
- Infant Management and Feeding, by L. E. Bracher. 7 pp., 8vo. Wellington, 1901. *Mrs. L. E. Bracher.*
- Nottingham.** The Meteorology of, for the year 1901, by Arthur Brown, M.Inst.C.E., and Philip Boobbyer, M.B. 7 pp., fcp. Nottingham, 1902. *The Authors.*
- Ottawa.** *Laboratory of the Inland Revenue Department*, 1901. Bulletin No. 79. "Oil of Turpentine." 36 pp., 8vo. Ottawa, 1901. *T. Macfarlane, Chief Analyst.*
- Paris.** *Annales des Ponts et Chaussées.* 1^{re} partie: Mémoires et Documents relatifs à l'Art des Constructions et au Service de l'Ingénieur, 1901, 3^e Trimestre. 424 pp., 8vo. Paris, 1902. *L'Inspecteur Général Secrétaire de la Commission.*
- Service des Eaux et de l'Assainissement: Notes à l'Appui du Compte des Dépenses de l'Exercice, 1900. 118 pp., 4to. Paris, 1902. *Direction Administrative de la Voie Publique et des Eaux et Égouts.*
- X^e Congrès International d'Hygiène et de Démographie à Paris en 1900: Compte-rendu. 1070 pp., 8vo. Paris. *E. White Wallis.*
- Roma.** *Annali d'Igiene Sperimentale.* Vol. X., Fasc. III. and IV., 1900. Vol. XI., Fasc. I., II., III., and IV., 1901. 8vo. Rome, 1900 and 1901. *Prof. Angelo Celli.*
- Shenton, H. C. H.** The Modern Treatment of Sewage. 117 pp., 8vo. London, 1902. *The Author.*
- Simmons, T. A., B.Sc., and Stenhouse, G., B.Sc.** Experimental Hygiene; an introductory course of work in the principles of Domestic Science. 322 pp., 8vo. London, 1901. *Macmillan & Co. (publishers).*
- Squire, J. Edward, M.D., D.P.H.** Essays on Consumption, together with some clinical observations and remarks on pneumonia. 302 pp., 8vo. London, 1900. *Sanitary Publishing Co.*
- Wallis, H. Sowerby, and Mill, Hugh Robert, D.Sc., LL.D.** British Rainfall, 1900: On the Distribution of Rain over the British Isles during the Year 1900. 326 pp., 8vo. London, 1901. *The Authors.*
- West Riding (Yorks).** *County Council.* Reports (1, 2, 3, 4, 5, 6, 9) upon the Sanitary Condition of Penistone Union, Wetherby Union, Settle Union, Barnsley Union, Skipton Union, Thorne Rural District, and Sedburgh Union. Fcp. Wakefield, 1895-1901. *J. R. Kaye, M.B., County M.O.H.*
- Willoughby, Edward F., M.D., D.P.H.** Hygiene for Students. 563 pp., 8vo. London, 1901. *Macmillan & Co. (publishers).*
- Wood, Francis, Assoc.M.Inst.C.E.** The Sanitary Engineering: a Practical Manual of Town Drainage and Sewage and Refuse Disposal. 300 pp., 8vo. London, 1902. *Griffin & Co. (publishers).*

In addition to the books presented to the Library, the following works connected with Sanitary Science have been published during the quarter.

- Behring, Prof. Dr. L. v.** Diphtherie. A. Hirschwald.
- Bergey, D. H., A.M.M.D.** The Principles of Hygiene. Saunders & Co.
- Boustead, W.** The Law relating to Factories and Workshops as amended and consolidated by the Factory and Workshop Act, 1901. Sweet & Maxwell, Ltd.
- Brown, E., M.R.C.S., L.R.C.P.** The Case for Vaccination. Baillière, Tindall & Cox.
- Chester, F. D.** A Manual of Determinative Bacteriology. Macmillan & Co.
- Davies, Lieut.-Col. A. M., R.A.M.C.** A Handbook of Hygiene. Second Edition. C. Griffin & Co.
- Diver, E. W., M.D.** Its causation, prevention, and treatment. Bale, Sons & Danielson.
- Egbert, Sineca, M.D.** Manual of Hygiene and Sanitation. • Second Edition. H. Kimpton.
- Emery, W. D'Este, M.D., B.Sc.** Handbook of Bacteriological Diagnosis for Practitioners, including Instructions for the Clinical Examination of the Blood. H. K. Lewis.
- Freeman, Major E. Carrick, R.A.M.C.** The Sanitation of British Troops in India. Second Edition. Rebman, Ltd.
- Freitag, T. Kendall.** Architectural Engineering. Second Edition. Chapman & Hall.
- Gardiner, C. F., M.D.** The Care of the Consumptive. G. P. Putnam & Sons.
- Giffen, G. H., L.R.C.P. & S.Ed.** Students Manual of Medical Jurisprudence and Public Health. W. Bryce.
- Gorman, F. P., A.M.** A Laboratory Course in Bacteriology, for the use of Medical, Agricultural, and Industrial Students. Saunders & Co.
- Grassi, Von Battista.** Die Malaria: Studien eines Zoologen. Second Edition. Gustav Fischer.
- Higginson, C. J.** Food and Drugs—a Manual for Solicitors, Public Analysts, Inspectors, etc. Second Edition. Effingham & Wilson.
- Kerschbaumer, Dr. Fritz.** Malaria: ihr Wesen ihre Entstehung, und ihre Verhütung.
- King, Preston, M.D.** Bath Waters: a rational account of their nature and use. J. W. Arrowsmith.
- Kübler, Dr. P. von.** Geschichte der Pocken und der Impfung. A. Hirschwald.
- Mortimer, J. D. E., M.B., F.R.C.S.** Tendencies to Consumption: How to counteract them. The Scientific Press.
- Nothnagel's Encyclopedia of Practical Medicine; Typhoid Fever and Typhus Fever, Variola, Vaccination, Varicella, Cholera, Erysipelas, Whooping Cough, Hay Fever.** Saunders & Co.

- Redgrave, A., C.B.** Redgrave's Factory Acts. Eighth Edition. Shaw & Sons; and Butterworth & Co.
- Rideal, S., D.Sc., F.I.C.** Water and its Purification. Second Edition. Crosby, Lockwood & Co.
- Rogers, Leonard, M.D., F.R.C.S.** Report on an Experimental Investigation of the Methods of Inoculation against Rinderpest.
- Romme, Dr. R.** La Lutte contre la Tuberculose. Masson et Cie.
- Thomson, Major G. S., M.B. and Thomson, J. M.R.C.S.I.** A Treatise on Plague: the conditions for its causation, prevalence, incidence, immunity, prevention and treatment. Swan, Sonnenschein & Co.
- Vinrace, E. Dennis, M.R.C.S.** The War against Consumption. Century Printing Co.
- Wheelwright, E. M.** School Architecture. Rogers & Manson.
- Will, John Shiress, K.C.** Michael and Will on the Law relating to Gas and Water. Fifth Edition. Butterworth & Co.
- Williams, H. W., M.D.** A Manual of Bacteriology. Second Edition. Rebman, Ltd.
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PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

PRELIMINARY LIST OF DONATIONS.

Amounts already reported :

	£	s.	d.
Capital allotted	6,000	0	0
Vice-Presidents	258	0	0
Members of Council.. .. .	95	6	0
Members and others.. .. .	312	18	0
<i>To the Douglas Galton Gallery</i>	135	0	0

Since the last report the following Donations have been made :—

Additional amounts :

Capital allotted	1,000	0	0
J. Stone Burbery	10	0	0
J. Wright Clarke	3	3	0
A. Douglas Cowburn	2	2	0
J. Defries & Sons, Ltd.	50	0	0
Miss Caroline Harrold	10	0	0
J. Hepper	5	0	0
James Mansergh	10	10	0
R. E. Middleton	5	5	0
F. D. Mocatta	10	10	0
H. Cecil Moore	1	1	0
J. Foxley Norris	1	1	0
W. N. Shaw	5	5	0
H. Saxon Snell	5	5	0
W. K. Thomas	1	1	0
Vinolia Company	105	0	0
R. Wood	3	3	0
Other amounts	1	16	6

For the Douglas Galton Gallery :

Mrs. White Wallis	10	10	0
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SUPPLEMENT TO THE JOURNAL OF THE SANITARY INSTITUTE.

REVIEWS OF BOOKS.

SEWAGE WORKS ANALYSES.*

The plural form given to the last word of the title indicates at the outset what is further expressed in the preface, that this small work is not put forward as a general guide to sewage analysis, but as an account—written in response to several requests—of the methods in use in two laboratories, those of the Manchester Corporation Sewage Works and of the Mersey and Irwell Joint Committee. The protracted litigation as to the Manchester effluent and the pollution of the Ship Canal had one good result in developing a long and wide experience in the examination of a class of sewages usually largely admixed with manufacturing discharges. This little book will be very useful, and as the first edition may probably be rapidly disposed of, it will be of advantage to point out a few improvements that might be introduced in the second. As professing (p. vi.) to be written for “chemists,” some of the elementary matter could have been compressed or omitted, and space found for examples, in each section, of the composition of typical sewages and effluents, very few of which are given. The description of a simple desiccator, for instance, is repeated on p. 91 and p. 105; and the details as to standard solutions on p. 105 and elsewhere are very voluminous and elementary. On the other hand, necessary details and precautions are sometimes omitted, as in the dangerous process for making soda on p. 93, while on p. 116 pyrogallic acid should be added after the potash, and at p. 92 there is no mention of checking the standard acid by a sulphate determination. On p. 26 the measurement should be done with a burette; a 100 cc. measure is too inaccurate, considering the multiplication of the figures. On p. 90 we read “the changes taking place in the septic tank result in the formation of carbonic acid and also of sulphuretted hydrogen, both of which gases dissolve in the effluent and give it a *weakly acid reaction* when tested with a reagent known as *phenol-phthalein*” (the italics are ours). Phenol-phthalein is too familiar to be so described: it gives no reaction with acids, and of course no evidence of a liquid

* *Sewage Works Analyses.* By Gilbert J. Fowler, M.Sc. (Vict.), F.I.C., Superintendent and Chemist, Manchester Corporation Sewage Works. London: P. S. King & Son. Small 8vo, 135 pp., 11 plates. 1902. 6s. net.

being weakly or strongly acid, or whether it is distilled water. It is twice stated (pp. 91 and 94) that its indications are untrustworthy in presence of ammonium salts, yet it is not mentioned how this difficulty can be obviated, *e.g.*, by evaporation when fixed alkali is present.

In spite of the universal demand for a uniform method of stating results of analysis, and of the present Royal Commission on Sewage having endorsed the general system of stating parts per 100,000, and giving the different nitrogenous factors in terms of nitrogen, Mr. Fowler employs the old method of grains per gallon, uses the form "ammonia from nitrates and nitrites," and gives dissolved oxygen in grains per gallon instead of in cc. per litre, for reasons (p. 16) that do not seem sufficient. As a preference is naturally expressed (p. vi.) for processes capable of rapid execution with sufficient practical accuracy, the indigo process for nitrates, and the modified Winkler for dissolved oxygen might have been mentioned, especially as the latter is described in the number of the *Journal of the Society of Chemical Industry* quoted last on p. 81 in connection with the brief allusion to Ramsay's method. Is it possible that these, and Letts' form of Mohr's ferrous test, have not been tried in the Manchester laboratories? A table of the amount of oxygen in saturated water at different ordinary temperatures should have been inserted, and a portable apparatus used by Mr. Scudder for the Roscoe & Lunt (Schutzenberger) process (p. 81) is mentioned without description. In the section on chlorine (pp. 86-88), the advantage, and almost necessity, of evaporating non-acid liquids before titration is not alluded to. The explanation of the frequent lowering of the chlorine during sewage treatment is open to some doubt, and a figure starred on p. 89 as exhibiting this point actually shews an increase.

We think the fusion process (p. 99) is inadvisable, as bringing in the iron derived from clay, as well as that due to trade discharges. Although the relative value of the determination of dissolved and suspended solids is somewhat unfortunately stated (pp. 101, 103), the suggestion for proximate analysis of the latter (p. 103), and the use of the dipping-tube (p. 109), are very good points. The method of nesslerising with a paper scale (p. 54), also proposed for nitrites (p. 65), and for iron (p. 97), is hardly to be recommended. With regard to corrections, on p. 18, line 3, "one grain" should be "one-tenth grain"; "*micrococcus urei*," apart from the obvious error in spelling, is not the only organism concerned in the fermentation of urea (p. 38). "Free alkali" (p. 93) should be "free *fixed* alkali"; "some free lime should be present" (p. 94) is not a general rule, neither is it indispensable to "always use the same strength and the same amount of phenol-phthalein" (*ibid*). On p. 115, line 21, "fig. 3" is a misprint for "fig. 10". At p. 13, line 22, "in" in two places should be "with", and why "*so-called* anaërobic organisms" on p. 3? The analysis of gases, chapter VIII., is well described, but no examples of composition are given.

In view of the position of its author, and the useful work he has

done, we have somewhat minutely criticised a volume that is likely to be widely read and used. It is handy, well printed, and interesting, and will be of considerable value. S. R.

WATER SUPPLY.*

Prof. Mason's work has for many years been an established textbook in the States, and is well-known in England—one of its merits being that its information is not confined to America, but embraces much of the experience gathered in other parts of the world. Hence our notice of a third edition need only be directed to the alterations which have been made. As a partial balance of the excision, in 1899, of the chapters on the chemical and bacteriological examination of water, to form the nucleus of a separate volume on analysis, the author has added new material to several sections, especially chap. III., on "Artificial Purification," and chap. VII., on "Stored Water." In the former the important subject of mechanical filters, rather scantily treated in the first edition, is now fully dealt with; in the latter a number of interesting additions have occurred—particularly the illustrated descriptions of the peculiar "skimming disks" at Denver, Colorado, the rock storage at Gibraltar, and the large covered reservoir at Pasadena, California. The chapters on ground and deep-seated water have also received amplifications, and the subject of artesian wells is clearly treated. The sanitary aspects are kept in view throughout the work, but are most fully treated in the long second chapter on "Drinking Water and Disease." The paragraphs on malaria are rewritten, but a grave omission is that there is no mention of *Plasmodium malarie*, although observations of Laveran and Manson are quoted. The author still seems to believe that "another cause for the malady" is "the character of the local water," and cites a report of 1882 attributing this disease to decomposing sawdust in water. A valuable feature of the book is the copious introduction of tables and statistics, which are in most cases brought nearly up to date. S. R.

TRADES WASTE: ITS TREATMENT AND UTILISATION.†

This work is the first publication of any length devoted to the subject as a whole, and is put forth as a "handbook for borough engineers, surveyors, architects, and analysts," for whom it will be

* Water Supply, considered principally from a Sanitary Standpoint. By William P. Mason, Professor of Chemistry, Rensselaer Polytechnic Institute, Troy, N.Y. Third Edition, rewritten. New York: John Wiley & Sons; London: Chapman & Hall. 8vo, 448 pp., 24 plates, and numerous illustrations and tables. 1902. Price 21s. net.

† Trades Waste: Its Treatment and Utilisation, with special reference to the Prevention of Rivers Pollution. By W. Naylor, F.C.S., A.M.I.C.E., Chief Inspector of Rivers, Ribble Joint Committee. 267 pp., 21 plates, 27 folding diagrams and numerous illustrations in the text. Price 21s. net. Chas. Griffin & Co., Exeter Street, Strand. 1902.

eminently useful, but it is surprising that in the category manufacturers have unaccountably been omitted, although the importance of the subject to them is obvious, and is illustrated by a quotation (on p. 227) that in 1895 many German works had been compelled to close because it was then found impossible to comply with official requirements as to pollution. According to the author's preface, the book "aims at setting forth the causes of rivers pollution, and the best known means of preventing such pollution economically . . . An attempt has been made to point out the principles, characteristics, and advantages of the various systems of treatment." Accordingly, we find that the theoretical considerations are clearly laid down at the commencement of each division. In the long chapter on chemical engineering, a preliminary section on treatment of sludge is specially interesting. It is pointed out, in connection with the description of contrivances for promoting the aggregation of the finer precipitates, that the depth of tanks has less influence than the relation of the current velocity to the "sinking speed" of the particles. Yet in one experience of the author (p. 27) the plans were returned by the Local Government Board in order that the depth of the precipitation tanks should be increased, involving an extra lift for the pumps, and a great expense for foundations in a soft subsoil. The Dortmund tank is only incidentally mentioned, whereas the Ives and Fulner modifications are described in detail. For precipitation of most liquors sulphate of alumina is preferred to alumina-ferrie on account of the discoloration caused by iron in the latter. With reference to an observation (on p. 133) that "much improvement, so far as the prevention of rivers pollution is concerned, will be brought about by the adoption of processes or operations which will considerably reduce the actual volume of waste water turned out from mills or factories," we may remark that in the bacteriological method of treatment, which has been so successful in the North, dilution is often of great advantage.

One of the most intractable of liquors seems to be the waste from sulphite wood pulp used in paper making, but this industry is not largely represented in this country at present.

The author shows how, in the majority of organic waste liquids—even after the failure of application to land on account of souring, and of mechanical filtration through choking with suspended matter—a passage with ordinary sewage through septic tanks and bacterial filters has succeeded in producing a satisfactory effluent.

Drawings of appliances are very freely given in the volume; in fact, the numerous folding plates are rather an obstruction to the text, and it might be suggested that a position at the end of the book would be in some respects preferable. Tables of analyses of the liquors are also frequent, but are mostly limited to the amounts of solids and of mineral matters. The plates, although well executed, are—as in many other works—somewhat more pictorial than instructive: for example, the group of workmen opposite p. 32. The sketch on p. 159 is rather out of character with the rest.

While the index is not satisfactory (for instance, "degreasing,"

"chlorine," "tar," "arsenic," and other important subjects dealt with in the text, are not indexed), the revision of the text has been careful, as we have noticed very few misprints, such as "rotatory" (p. 145), and "fine chip" instead of "pine chip" (p. 226), the latter mistake completely obscuring the meaning of the pyrral test. On the whole this is a technical work of very great value. S. R.

ROADS: THEIR CONSTRUCTION AND MAINTENANCE.*

This book, purporting to be a Text Book "essentially of an elementary nature," rather misses its mark in this respect so far as the first 58 pages are concerned; the authors have introduced an elaborate description of the materials for road construction, and appear to revel in technical terminology such as will probably puzzle many men whose knowledge of geology may be well advanced.

There is not the slightest doubt that there is room for a handy Text Book on this subject, but to hide perfectly simple geological facts under a heap of abstruse words may have the effect of preventing the sale of a Text Book of this kind; the first six chapters "smell of the candle" over much.

Beyond this point, however (with few exceptions), the work is excellent, and it is to be hoped that the book will have a wide circulation amongst Road Surveyors.

There are a few inconsistencies, but they are of a minor character. It is perhaps a pity that the authors have appeared to deal with the wants of cyclists and motorcrats in a somewhat sarcastic spirit; the use of any form of automobile in preference to horse traffic is to be welcomed, both on sanitary and economic grounds. Motors have come to stay, and it will be well if local Authorities recognise that the roads should be made for the traffic and not the traffic for the roads.

The sanitary aspect of road construction might well have had a chapter devoted solely to it, as this question is one which requires dealing with very carefully; hitherto the guiding factor with local Authorities in determining the nature of a road covering has been economy and not sanitation; this policy has led to disastrous results and has probably caused a considerable amount of avoidable disease.

We hope the authors will see their way to deal more fully with this matter in subsequent editions. H. H. H.

* Roads: Their Construction and Maintenance, with special reference to Road Materials. By Allan Greenwell, A.M.I.C.E., and J. V. Elsdon, B.Sc., F.G.S. 280 pp., 8vo. D. Fourdrinier, *Builder* Office, Catherine St., Strand. 1902.

NOTES ON BOOKS AND PAPERS IN TRANSACTIONS.

"The Sanitary Inspector's Guide," by H. Lemmoin-Cannon.
256 pp., 8vo. London, 1902. *P. S. King & Son.* Price
3s. 6d. net.

A practical treatise on the Public Health Act, 1875, and the Public Health Acts Amendment Act, 1890, as far as they affect the Inspector of Nuisances, dealing with and consolidating such sections, explaining their extent and meaning in a manner useful alike to the student and the appointed officer.

"The Health Officer's Pocket-Book," by Edward F. Willoughby,
M.D., D.P.H. 424 pp., 8vo. London, 1902. *Crosby,
Lockwood & Co.* Price 10s. 6d. net.

A guide to sanitary practice and law for Medical Officers of Health, Sanitary Inspectors, Members of Sanitary Authorities, &c. This is the second edition of the Pocket-Book revised and enlarged. The sanitary engineering sections have been almost rewritten, and the recent improvements in ventilation, warming and lighting, water services, &c., added.

The chapter on Bacteriological Examination of Water is new, and schedules hitherto found in the text have been relegated to an appendix.

The book is arranged in eight main chapters under "Mathematical Practice," "Meteorological Practice," "Demography and Statistics," "Engineering Memoranda," "Sanitary Practice," "Potable Waters," "Dietetics," "Scavenging," with a Part II. on Sanitary Law.

"Flesh Foods, with Methods for their Chemical, Microscopical, and Bacteriological Examination," by C. Ainsworth Mitchell, B.A., F.I.C., F.C.S. 336 pp. 8vo. London, 1900.

In this volume the author has endeavoured to collect and summarise the records and investigations scattered throughout the English and foreign scientific books and periodicals, and to select such methods as appeared most suitable for the examination of meat and its preparations.

"Records of the Egyptian Government School of Medicine."
251 pp., fcp. Cairo, 1901.

The original investigations reported in the volume, together with the elaborate and numerous illustrations, make the publication of these records of especial interest.

Prof. Dr. A. Looss deals with "The Sclerostomidæ of Horses and Donkeys in Egypt."

W. H. Wilson, M.A., M.B.: On "The Poison of Spiders, with especial reference to that of *Chætopelma Olivacea*," and on "The Blood of *Chætopelma Olivacea*, with special reference to the presence of Hæmocyanin."

F. C. Madden, M.B., F.R.C.S., and G. Goodman, M.B., B.C., On "Four Cases of Pinta."

F. C. Madden, M.B., F.R.C.S., On "Syphilis in Egypt," and "Two Cases of Pink Variety of Mycetoma."

ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

Abstracts of Titles classified in this List under the following headings:—

Science in Relation to Hygiene and Preventive Medicine.

**Hygiene of Special Classes, Trades, and Professions; and
Municipal Administration.**

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

ALLANSON-WINN, R. G., M.Inst.C.E.I. Foreshore Protection. *The Journal of State Medicine*, May, 1902, p. 251.

BLYTH, M. WYNTER, B.A., B.Sc., F.I.C. The detection of artificial colouring matters in fresh and sour milk. *The Analyst*, May, 1902, p. 146.

BURRIDGE, A. F. Vaccination and the Act of 1898. *The Journal of State Medicine*, July, 1902, p. 375.

CRIBB, CECIL H., B.Sc., F.I.C. Note on (1) samples of coffee containing added starch; (2) a sample of artificial coffee berries. *The Analyst*, April, 1902, p. 114.

FISHER, W. W., M.A., F.I.C. On the indirect estimation of alkalies in waters. *The Analyst*, May, 1902, p. 137.

—— Alkaline Waters from the lower Greensand. *The Analyst*, July, 1902, p. 212.

A consideration of the characters of these waters, and giving the results of analyses of many samples.

FREEMAN, Major E. CARRICK, R.A.M.C. Some points in connection with the sanitation of troops in the field. *Journal of State Medicine*, April, 1902, p. 219.

GRÜBER, Prof. MAX, M.D. On Bacteriolysis and Hæmolysis. *Journal of State Medicine*, April, 1902, p. 189.

HOLST, Dr. A., GEIRSCOLD, Dr., and M. SCHMIDT-NIELSON. On the befoulment of the Town Harbour and of the River Akersel by the Sewage of the Town of Christiania. *Archiv für Hygiene*, 1902, p. 153.

The investigation into the causes of the befoulment has been of a most exhaustive and minute character, hypographic, chemical, and bacterial, and is therefore of great value as a model of such investigations; but the conclusions reached are scarcely commensurate with the enormous labour bestowed on the research.

KASR-EL-AINY HOSPITAL. Statistics of 1900. *Records of the Egyptian Government School of Medicine*, 1901, p. 233.

LOOSS, Prof. Dr. A. The Sclerostomidæ of horses and donkeys in Egypt (with 13 plates). *Records of the Egyptian Government School of Medicine*, 1901, p. 25.

MADDEN, F. C., M.B., F.R.C.S.

Some cases of interest from the Surgical Division.

Four cases of Pinta.

Syphilis in Egypt.

Two cases of the Pink variety of Mycetoma.

Records of the Egyptian Government School of Medicine, 1901, pp. 173, 197, 201, 209.

MILTON, FRANK, M.R.C.S., L.R.C.P.

Some cases of interest from the Surgical Division.

Four cases of vaginal Atresia, and a case of imperforate Hymen.

Records of the Egyptian Government School of Medicine, 1901, pp. 166 and 185.

PILKINGTON, H. O., M.R.C.S. The sanitation of the dwelling-house. *Journal of State Medicine*, May, 1902, p. 276.

- ROBERTSON, WILLIAM, M.D., D.P.H. The disinfection of rooms. *Journal of State Medicine*, May, 1902, p. 267.
- SANDWITH, F. M., M.D., F.R.C.P. The history of Kasr-el-ainy A.D. 1466-1901. *Records of the Egyptian Government School of Medicine*, 1901, p. 1.
- SANDWITH, F. M., M.D., F.R.C.P., and SYMMERS, W. ST. C., M.B. A case of Foetal Rickets. *Records of the Egyptian Government School of Medicine*, 1901, p. 157.
- STEVENSON, THOMAS, M.D. Discussion opened by, on the Report of the Joint Committee of the Society of Chemical Industry and Public Analysts on the determination of minute quantities of Arsenic. *The Analyst*, July, 1902, p. 210.
- SWINBURNE, JAMES. The Factors of Heat. *Engineering*, Jan. 31st, 1902, p. 157.
Heat in relation to other branches of physics—attempts to put the theory of heat on a better foundation.
- SYMMERS, W. ST. C., M.B. Report on Post-mortems at Kasr-el-ainy. *Records of the Egyptian Government School of Medicine*, 1901, p. 213.
- TEBB, W. SCOTT, M.A., M.D., D.P.H. Food Preservatives. *Journal of State Medicine*, April, 1902, p. 212.
- WHITE, JOHN, F.I.C. Spurious Cream of Tartar. *The Analyst*, April, 1902, p. 118.
- WILSON, W. H., M.A., M.B.
On the Poison of Spiders, with especial reference to that of *Chætopelma olivacea*.
On the Blood of *Chætopelma olivacea*, with especial reference to the presence of Hæmocyanin.
Records of the Egyptian Government School of Medicine, 1901, pp. 141 and 151.
- WILSON, W. H., M.A., M.B., and SANDWITH, F. M., M.D., F.R.C.P. Report on the Dietary of Kasr-el-ainy Hospital. *Records of the Egyptian Government School of Medicine*, 1901, p. 219.
- ZAMMIT, THEM., M.D. Mediterranean Fever from a Sanitary Point of View. *Journal of State Medicine*, July, 1902, p. 399.

Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

AMBLER, LOUIS. Artizans' Dwellings from the private point of view. *The Builder*, May 17th, 1902, p. 495.

CLARKSON, I. and S. F. The new Holborn Baths. *The Builder*, June 7th, 1902, p. 566.

Description of the extension of the old baths in Endell Street and of the new baths adjoining, having a frontage in Broad Street, Holborn—with plan and perspective view.

FLEMING, OWEN. Housing of the Working Classes; its Economic Basis. *The Builder*, May 17th, 1902, p. 493.

SMITH and WEALD. Battersea Working-class Houses Competition. *The Builder*, May 10th, 17th, 24th, 31st, June 7th, 1902, pp. 474, 500, 522, 542, 567.

Description, with plans, elevation, and section of designs of the first premiated set of plans, Nos. 1-5.

Building Materials, Construction, and Machinery.

COSTIGAN, JAMES S. Notes on Tests of Cement and Concrete used in actual works. *Engineering Record*, April 26th, 1902, p. 393.

About 100 tests of cement and 80 of concrete were made under various conditions which are detailed.

Water Supply, Sewerage, and Refuse Disposal.

BUXTON, Dr. B. H. Bacterial Purification of Sewage, *Engineering Record*, April 26th, 1902, p. 387.

General description of methods.

DAVIS, J., M.Inst.C.E. The Sewerage Systems of Sydney, N.S.W., and its Suburbs. *The Surveyor*, Feb. 7th, 1902, p. 177.

Population—extent of sewers—the “partially combined system”—surface water—separate drainage areas—description of the schemes.

“ENGINEERING RECORD,” EDITOR OF. The Kennicott Water Softener. *Engineering Record*, May 3rd, 1902, p. 419.

Description of the apparatus for softening water by lime and soda

—the motive power for mixing is derived from the incoming water—softened water is used to make the lime water.

— Details of New York School Plumbing. *Engineering Record*, May 3rd, 1902, p. 422.

Details of shower baths and plumbing in the New York public schools, of which there are about 400—the Wadleigh High School is taken as a sample and described fully.

GRIFFITH, PERCY, M.INST.C.E. Water Supply. *The Surveyor* Feb. 7th, 1902, p. 172.

System of control—area of supply—physical features of this country—municipalization—underground water supplies—boring versus wells.

HILL, G. EVERETT. Sewage Disposal at Collingswood, N.J. *Engineering Record*, May 3rd, 1902, p. 415.

The town contains only 1,800 inhabitants, but consists entirely of suburban residences—the system adopted included a septic tank, coke contact-beds as primary filters, and coke ware-beds as secondary filters.

JENKINS, ALFRED J., A.M.I.C.E. The Filtration of River Water. *The Surveyor*, April 11th, 1902, p. 428.

Supply from streams and rivers—standard of purity—pollution—slow sand filtration—filter beds—cost of filters and cost of working—mechanical filters—double filtration.

NAYLOR, W., Assoc.M.Inst.C.E. The Bacterial Treatment of Trade Wastes. *The Surveyor*, Feb. 7th, 1902, p. 177.

General experience already obtained—experiments on active bacterial filters.

Heating, Lighting, and Ventilating.

ANON. Ventilating and Lighting St. Bartholomew's Clinic, New York City. *Engineering Record*, March 29th, 1902, p. 301.

Six-story building, 92 ft. by 50 ft., heated by direct radiation—ventilation system separate from the heating—warm air enters 9 ft. above floor, foul air exhausted near floor level.

SANITARY LEGISLATION.

The Council of the Institute have had under consideration the following Bills introduced into Parliament during this Session. The action taken by the Council is noted in each case.

Plumbers' Registration Bill. Brought into the House of Lords by Lord Glenesk.

A Bill intituled an Act for the registration of plumbers.

Decided to petition against the Bill, which has since been dropped.

Public Health Bill. Brought in by Sir Francis Sharp Powell, Bart.

A Bill to amend the Law relating to the qualification and tenure of office of medical officers of health, inspectors of nuisances, and sanitary inspectors.

Decided to petition in favour of this Bill.

The attention of the promoters of this Bill was drawn to certain clauses, where it was thought alterations were desirable. The Bill has since been dropped.

MEETINGS HELD APRIL TO JULY, 1902.

SESSIONAL MEETING.

A meeting was held on April 9th, and Discussion was opened by PATRICK MANSON, C.M.G., M.D., F.R.C.P., LL.D., F.R.S., on "The Prevention of Malaria"; R. FARQUHARSON, M.D., M.P., in the Chair.

CORONATION DINNER.

His Grace the Duke of Northumberland, K.G., Vice-President, presided at the Coronation Dinner of the Institute, held in the Venetian Chamber of the Midland Grand Hotel on June 2nd.

Ninety-one members and guests were present, amongst whom were Sir Francis Powell, Bart., M.P., Sir Joseph Fayrer, Bart., K.C.S.I., Sir Henry Norbury, K.C.B., Director-General of Navy Medical Department, Surgeon-General W. Taylor, Director-General of Army Medical Department, E. Barnes, J.P., Mayor of St. Pancras, R. M. Hensley, J.P., Chairman Metropolitan Asylums Board, H. Ward, Chairman L.C.C. Technical Education Board, and the Masters of the Carpenters and the Plumbers Company.

EXAMINATIONS.

From March to July the following Examinations were held :—

PRACTICAL SANITARY SCIENCE.

April 11th and 12th, Birmingham. 8 Candidates, 4 Certificates granted.

May 2nd and 3rd, London. 17 Candidates, 9 Certificates granted.

June 6th and 7th, Leeds. 3 Candidates, 2 Certificates granted.

June 20th and 21st, Belfast. 1 Candidate, 1 Certificate granted.

July 4th and 5th, Liverpool. 2 Candidates, 1 Certificate granted.

INSPECTORS OF MEAT AND OTHER FOODS.

May 9th and 10th, London. 26 Candidates, 18 Certificates granted.

July 11th and 12th, Liverpool. 17 Candidates, 13 Certificates granted.

PRACTICAL HYGIENE FOR SCHOOL TEACHERS.

June 6th and 7th, Leeds. 11 Candidates, 7 Certificates granted.

INSPECTORS OF NUISANCES.

April 11th and 12th, Birmingham. 74 Candidates, 35 Certificates granted.

May 2nd and 3rd, London. 104 Candidates, 48 Certificates granted.

June 6th and 7th, Leeds. 76 Candidates, 48 Certificates granted.

June 20th and 21st, Belfast. 5 Candidates, 3 Certificates granted.

July 4th and 5th, Liverpool. 106 Candidates, 55 Certificates granted.

The following Examinations were held in New South Wales :—

PRACTICAL SANITARY SCIENCE.

December 20th and 21st, 1901, Sydney. 8 Candidates, 6 Certificates granted.

INSPECTORS OF NUISANCES.

December 20th and 21st, 1901, Sydney. 27 Candidates, 17 Certificates granted.

CANDIDATES WHO HAVE RECEIVED CERTIFICATES,
APRIL—JULY, 1902.

Practical Sanitary Science.

1902, Apr. 12.	ALEXANDER, CONNEL WILLIAM LONG.
1902, May 3.	BATE, ERNEST MONTAGU.
1902, July 5.	CASEY, MARK PATRICK.
1902, May 3.	DALGLIESH, CHRISTOPHER.
1902, May 3.	DENSHAM, SYDNEY CHARLES.
1902, May 3.	DIAMOND, GEORGE.
1901, Dec. 21.	FRAZER, RODERICK AIRD.
1902, Apr. 12.	GARTZWEILER, CORNEL LEONHARD.
1902, May 3.	HAIGH, TOM VICKERMAN.
1902, May 3.	HOWELLS, DANIEL PETER.
1901, Dec. 21.	JAMES, THOMAS ARMANDALE.
1901, Dec. 21.	MURPHY, PETER.
1901, Dec. 21.	PALAZZI, JOSEPH PETER.
1902, Apr. 12.	PRESTON, JOHN ROGER.
1902, Apr. 12.	RANSOM, WILLIAM.
1902, May 3.	REES, JOSEPH.
1902, June 21.	SLOAN, THOMAS MILLEN.
1902, May 3.	SPRINGALL, GEORGE HENRY.
1902, June 7.	TURPIN, THOMAS ALFRED.
1902, May 3.	VARE, WILLIAM EDMUND.
1901, Dec. 21.	WADSWORTH, ALFRED ERNEST.
1902, June 7.	WOODHOUSE, CHARLES WORTH.
1901, Dec. 21.	WRIGHT, JOHN JOSEPH.

Inspectors of Meat and Other Foods.

1902, May 10.	BAGSHAW, ALLEN.
1902, May 10.	BEAL, SAMUEL PERCY.
1902, May 10.	BOBBITT, ARTHUR JOSEPH.
1902, May 10.	BURRELL, TOM LEONARD.
1902, May 10.	CHASE, WILLIAM HENRY, M.R.C.V.S.
1902, May 10.	CHILD, HARRY ROBERT.
1902, July 12.	CRAWSHAW, JONAS KENYON.
1902, May 10.	DAVIES, THOMAS LANE.
1902, July 12.	DIXON, FREDERICK.
1902, July 12.	EGINTON, ARTHUR THOMAS.
1902, July 12.	FARAGHER, EDWARD HERBERT.
1902, May 10.	FRASER, ARCHIBALD WILSON.
1902, July 12.	GARLAND, ARTHUR.
1902, May 10.	GRIMSLEY, JOHN.
1902, July 12.	HARDY, JOHN WILLIAM.
1902, May 10.	HARRISON, JAMES, M.R.C.V.S.
1902, May 10.	HENLEY, AMOS SEYMOUR.
1902, July 12.	HIGHAM, JOHN.

1902, May 10. HOWARD, PERCY STURTON, F.R.C.V.S.
 1902, May 10. KELWAY, FREDERICK WILLIAM.
 1902, May 10. LAWRENCE, CHARLES.
 1902, May 10. MCNAIR, ALEXANDER.
 1902, May 10. PAINE, RICHARD, M.R.C.V.S.
 1902, July 12. RAMSAY, HUGH.
 1902, May 10. RICHARDS, CHARLES ALBERT.
 1902, May 10. ROWSELL, WILLIAM.
 1902, July 12. SALTER, ROBERT BARON.
 1902, July 12. SCOTT, ALEXANDER JAMES EVANS.
 1902, July 12. STEBBINGS, FULLER.
 1902, July 12. WATSON, ROBERT.
 1902, July 12. WINTERBOTTOM, GEORGE.

Practical Hygiene for School Teachers.

1902, June 7. FINCH, WILLIAM ARTHUR.
 1902, June 7. L GILL, Miss MARTHA JANE.
 1902, June 7. L KNEALE, Miss FANNY.
 1902, June 7. L MIDGLEY, Miss ROSE ANNIE.
 1902, June 7. L MORRIS, Miss EVELYN MARGARET.
 1902, June 7. L SINGLETON, Miss MAUDE.
 1902, June 7. L WADMORE, Miss ALICE.

Inspectors of Nuisances.

1901, Dec. 21. ABBERTON, JOHN.
 1902, June 7. ABBOTT, JOHN HOPKINS.
 1902, May 3. ALLEN, JOHN.
 1902, July 5. ANDERSON, WILLIAM FENTON.
 1902, June 7. ARMITAGE, PERCY.
 1902, July 5. ASHMORE, HENRY EDWARD.
 1902, Apr. 12. L ATKINS, Miss SUSANNAH MARGARET.
 1902, July 5. AUSTIN, ROBERT.
 1902, July 5. BARNES, ALFRED.
 1901, Dec. 21. BARNES, WALTER.
 1902, May 2. BARRETT, FRANCIS WILLIAM.
 1902, May 3. L BARRETT, Miss JESSIE ELLEN.
 1902, June 7. BATTYE, JOE.
 1901, Dec. 21. BELL, RICHARD.
 1902, July 5. BELL, WILLIAM.
 1902, June 7. BENTLEY, WILLIAM HENRY THREEKELD.
 1902, July 5. L BETHEL, Miss GERTRUDE AGNES.
 1902, Apr. 12. BINDING, ELIAS.
 1902, July 5. BIRKHEAD, ALFRED ERNEST.
 1902, June 7. BLADON, HORACE WILLIAM.
 1902, May 3. BLAND, HERBERT FRANCIS.
 1902, Apr. 12. BLENCH, JOHN.

- 1902, June 7. BLYTHE, ROBERT.
 1902, July 5. BOOTH, JAMES HENRY LAWSON.
 1902, Apr. 12. BRADBURY, WILLIAM JAMES.
 1902, May 3. BRETT, LANCELOT ERNEST.
 1902, May 3. BROOK, JOHN WOOLFORD.
 1902, June 7. BROOKE, FRED.
 1902, Apr. 12. *L* BROOKS, Miss ALICE MAUD.
 1902, July 5. BUCHANAN, THOMAS.
 1902, Apr. 12. BULLOUGH, JAMES ARTHUR.
 1902, May 3. BURFITT, FRANCIS HERBERT.
 1902, June 7. BURTON, DUNCAN McLEAN.
 1902, May 3. BUTLER, ALFRED REGINALD.
 1902, June 7. CARLTON, CHARLES.
 1901, Dec. 21. CARMICHAEL, ALLAN DUNCAN.
 1902, June 7. CARTER, MATTHEW.
 1902, July 5. CHESTERFIELD, ALFRED WATKIN.
 1902, July 5. CLARKE, JAMES.
 1902, May 3. COOK, WILLIAM THOMAS.
 1902, Apr. 12. COTTAM, ARTHUR.
 1902, July 5. COUX, JOHN ARMSTRONG.
 1901, Dec. 21. COX, ARTHUR BLACKFORD.
 1901, Dec. 21. CRACKANTHORPE, LAURENCE SPENCER.
 1902, May 3. *L* CROSBIE, Mrs. FLORA.
 1902, July 5. CROSHAW, MICHAEL JOSEPH.
 1902, July 5. CROSTHWAITE, EPHRAIM LESTER.
 1902, May 3. CUTHBERTSON, WILLIAM.
 1902, July 5. DAIN, JOHN.
 1902, May 3. DANCE, CHARLES HENRY.
 1902, May 3. DAVIES, AUGUSTUS EWART.
 1902, May 3. *L* DAVIES, Mrs. MARY ELIZABETH.
 1902, July 5. DIXON, JAMES PARKINSON.
 1902, July 5. DOUGLAS, SHOLTO.
 1902, July 5. *L* DOWNING, Miss EDITH.
 1902, July 5. DUNCAN, ALBERT EDWARD.
 1902, July 5. DUTTON, JAMES BAXTER.
 1902, May 3. *L* EATON-SHORE, Miss MARY.
 1902, May 3. EDGERTON, LIONEL GEORGE.
 1902, June 7. ELSTON, ARTHUR.
 1902, July 5. *L* EMERSON, Miss CHRISTINA.
 1902, Apr. 12. ENGLAND, FREDERICK GEORGE.
 1902, July 5. FAIRHURST, THOMAS.
 1902, July 5. FARNWORTH, LUTHER.
 1902, Apr. 12. FENWICK, EDWARD DRYDEN.
 1901, Dec. 21. *L* FERGUSON, Miss MARGARET ELLEN.
 1902, Apr. 12. FIDES, THOMAS ALEXANDER.
 1902, June 7. FIRMAN, JOHN HENRY.
 1902, May 3. FIRMIN, ARTHUR CHARLES.
 1902, June 7. FLETCHER, JOSEPH.
 1902, July 5. *L* FLINT, Miss MARGARET.
 1902, May 3. FLOWER, WILLIAM JAMES.

1902, Apr. 12. FORKIN, THOMAS.
 1902, June 7. FRANKLIN, ROBERT HENRY.
 1902, Apr. 12. *L* FRANKS, MRS. GERTRUDE.
 1902, May 3. GARNAR, EDWARD GEORGE.
 1902, July 5. GEE, JAMES EDWARD.
 1902, May 3. GENDERS, PERCY ROBERT.
 1902, Apr. 12. GETHING, CHARLES EDWARD.
 1902, June 7. GILBY, HERBERT.
 1902, Apr. 12. GOUGH, ERNEST JAMES.
 1902, May 3. GOULTON, FREDERICK WILLIAM.
 1902, Apr. 12. GRACE, ARTHUR WILLIAM.
 1902, June 7. GREAVES, ALBERT EDWARD.
 1902, July 5. GREEN, FRANK.
 1902, June 7. HADFIELD, JOHN RICHARD.
 1902, July 5. *L* HANCOCK, Miss GERTRUDE ETHEL.
 1902, June 7. HARDY, SYLVESTER.
 1902, June 7. HARLAND, THOMAS HUME.
 1902, May 3. HARVEY, JAMES WILLIAM.
 1902, June 7. *L* HEARN, Miss ETHEL HARRIETT.
 1902, June 7. HEWITT, JOHN.
 1902, May 3. HINCE, FREDERICK ERNEST.
 1901, Dec. 21. HINSBY, JOHN GOLDEN.
 1902, June 7. HITCHEN, ERNEST.
 1902, July 5. HODGKISS, SAMUEL.
 1902, July 5. HOEY, FREDERIC.
 1902, July 5. HOLDEN, HENRY SYDNEY.
 1902, June 7. HOLLEY, WILFRED.
 1902, July 5. HORN, JOHN ROBERT.
 1902, July 5. HOUGH, WILLIAM EDWARD.
 1902, Apr. 12. HOWELLS, GRIFFITH EDWARD.
 1902, May 3. HOWITT, THOMAS RUSSELL.
 1902, June 21. HUNTER, JAMES.
 1902, June 7. HUTCHINSON, GEORGE.
 1902, July 5. JACKSON, JOHN WILLIAM.
 1902, July 5. JACKSON, RICHARD.
 1902, Apr. 12. JACKSON, ROBERT.
 1902, May 3. JOHNS, RICHARD.
 1902, May 3. JONES, NEVILLE.
 1901, Dec. 21. JULEFF, ARTHUR HENRY.
 1902, July 5. KAY, VINCENT ASHFIELD.
 1902, June 7. KENDRICK, JOSEPH FIRBY.
 1902, June 7. LANGLEY, FRANK.
 1902, Apr. 12. LEWIS, GEORGE GIBSON.
 1902, July 5. LITTLEFAIR, JAMES.
 1902, Apr. 12. *L* LITTLEWOOD, Miss ALICE.
 1901, Dec. 21. LOBB, WILLIAM GEORGE.
 1901, Dec. 21. LUMB, PRESTON.
 1902, July 5. MACDOUGALL, ALEXANDER
 1902, June 7. MARSDEN, HARRY.
 1902, Apr. 12. MARSH, HENRY.

CERTIFICATED CANDIDATES.

1902, June 7. MARSTON, WILLIAM.
 1902, July 5. MARTLEW, FRED.
 1901, Dec. 21. MARTIN, JOHN HENRY.
 1902, July 5. MAWDSLEY, ARTHUR.
 1902, June 21. MCCARTNEY, JOHN W.
 1902, July 5. MCKNIGHT, JOHN KERMODE.
 1902, July 5. *L* METCALFE, Miss MARGARET.
 1902, May 3. *L* MIDDLEBROOKE, Miss ALICE MARY.
 1902, May 3. MILLER, HORATIO WATERS.
 1902, June 7. MORRIS, JOSIAH.
 1902, June 7. *L* MOSS, Miss ALICE EMILY.
 1902, Apr. 12. *L* NELSON, Miss MARY A.
 1902, May 3. NICOLS, ALFRED CHARLES.
 1902, Apr. 12. NIXON, ERNEST EDWARD.
 1902, June 7. NOBLE, GEORGE HAROLD.
 1902, June 7. *L* NUTTALL, Miss OLIVE.
 1901, Dec. 21. O'CONNOR, JOHN.
 1902, May 3. PANGE, PRABHAKER CRISHNAJEE.
 1902, Apr. 12. PARLE, JOHN.
 1902, Apr. 12. PARNELL, HARRY.
 1902, July 5. PARRY, WILLIAM EVAN.
 1902, July 5. PARTINGTON, THOMAS.
 1902, July 5. PENDLEBURY, JOHN CARLTON.
 1902, June 21. *L* PENTLAND, Miss CATHERINE MARGARET.
 1902, Apr. 12. PINKEY, JOHN DAVID HENRY.
 1902, July 5. PORTUS, GEORGE THOMAS.
 1902, Apr. 12. PRICE, DAVID.
 1802, June 7. PRINCE, CHARLES HENRY.
 1902, Apr. 12. RICHARDS, CHARLES ALBERT.
 1902, June 7. RIDLEY, THOMAS.
 1902, June 7. RILEY, ALFRED.
 1902, May 3. ROACH, THOMAS MALCOLM.
 1902, Apr. 12. ROBINSON, CLEMENT MAYBURY.
 1902, July 5. RODGERS, GERVASE.
 1902, June 7. *L* ROTHWELL, Miss ANNIE.
 1902, July 5. SALT, JOHN.
 1901, Dec. 21. SAUTELLE, EDWIN STANHOPE.
 1902, June 7. SCHMIDT, ALBERT EDWARD.
 1902, July 5. SEFTON, WILLIAM.
 1902, July 5. SHAW, WILLIAM.
 1902, May 3. SHEPHARD, ROBERT HAROLD.
 1902, May 3. SMITH, ARTHUR FRANCIS.
 1902, Apr. 12. SMITH, ARTHUR THOMAS.
 1902, May 3. *L* SMITH, Miss FLORENCE ANNE.
 1902, May 3. SMITH, GEORGE ALFRED.
 1902, Apr. 12. SMITH, GEORGE HENRY.
 1902, May 3. *L* SMITH, Miss GERTRUDE.
 1902, June 7. SMITH, HARRY.
 1902, May 3. SMITH, WILLIAM THOMAS.
 1902, July 5. STEVENS, WILFRED JOHN.

1902, June 7. STOTT, JOHN BEVERLEY.
 1902, May 3. TAYLOR, CHARLES HENRY.
 1902, June 7. TAYLOR, FREDERICK CHARLES.
 1902, Apr. 12. THOMAS, JAMES.
 1902, May 3. THOMPSON, BENJAMIN SPANTON.
 1902, June 7. THOMPSON, GEORGE SHEERATON.
 1902, June 7. THOMPSON, HAROLD STEPHENSON.
 1901, Dec. 21. THOMPSON, WILLIAM JAMES.
 1902, June 7. *L* TOWNEND, Miss ANNIE.
 1902, May 3. TUFFIN, JOSIAH ARNOLD.
 1902, June 7. VALENTINE, WILLIAM.
 1901, Dec. 21. VAN TREIGHT, CHARLES.
 1902, May 3. VOSS, CHARLES.
 1901, Dec. 21. WALLIS, AUSTEN ALBERT.
 1902, Apr. 12. WARD, CHARLES ARTHUR.
 1902, July 5. WALTON, JAMES EDWARD.
 1902, July 5. WATSON, THOMAS.
 1902, May 3. WELLS, EDWARD JAMES.
 1902, Apr. 12. WHITEHEAD, SIDNEY E.
 1902, Apr. 12. WILKINS, ALBERT EDWARD.
 1902, July 5. WILKINSON, FRED.
 1902, June 7. WILKINSON, JOSEPH HENRY.
 1902, July 5. WILLIAMS, DAVID.
 1902, Apr. 12. WILLIS, CHARLES STANLEY.
 1902, July 5. WILSON, GEORGE.
 1902, May 3. *L* WINDER, Miss ELIZABETH GERVAIS.
 1902, June 7. WINPENNY, ARTHUR.
 1902, May 3. WOOD, ALBERT MILBANK.
 1902, May 3. WOODCOCK, EDWIN THOMAS JOHN.
 1902, May 3. WORSFOLD, FREDERICK CHARLES.
 1902, June 7. WRIGHT, GEORGE HENRY.
 1902, May 3. WRIGHT, HENRY THOMAS.
 1902, June 7. YATES, HAROLD.
 1902, May 3. *L* YOUNG, Mrs. ANNE CATHERINE.

Examination Questions.

Practical Sanitary Science.—Birmingham, April 11th and 12th, 1902.

1. How is the pressure due to a liquid exerted and to what is it proportional? Water having a head of 50 feet is admitted to a hydraulic cylinder of 3 feet diameter, what force would be exerted on the ram?

2. What is the difference of weight of 100 cubic feet of air at 4 degrees F. and 65 degrees F., the barometer standing at 30 in.? State the reason of this difference, and give examples of its effects in connection with the ventilation of rooms and the draught in chimneys?

3. Having data in regard to the rainfall of a district, what are the several conditions which govern the calculations as to the provisions that should be made for storage to meet periods of drought?

4. State how water mains are coated, and what causes their incrustation. What means are employed for removing incrustation?

5. Give sketches illustrating English and Flemish bonding in brickwork, and state the uses to which London Stocks, Red Rubbers, Blue Staffords, Adamantine Clinkers are put. State the material of which each kind of brick is made, and its sanitary merits.

6. State the three ways in which heat is transmitted, giving an example of each.

7. What are the chief considerations in laying out a system of town drainage :—

(a) For a hilly district,

(b) For a flat district.

8. What do you understand by the natural or biological purification of sewage? Describe any one installation for this purpose with which you are acquainted.

The Candidates were examined vivâ voce on the 12th.

Practical Sanitary Science.—London, May 2nd and 3rd, 1902.

1. What is meant by "diffusion," and what is its hygienic importance? Which will diffuse quicker, hydrogen or carbon dioxide? State the law regulating the diffusion of gases.

2. Give approximately the average annual rainfall for different districts in England and Wales and describe fully the bearing this has on the climate of such districts.

3. Describe fully the steps you would take to prepare a site for :—

(a) A village school to be erected on virgin soil.

(b) A public institution on an area recently cleared in the slums of a large town.

4. Describe what is known as the "Conservancy" system for dealing with house refuse. Describe the different methods for the collection, removal, and disposal, of excrementitious matters from a village, and state which you consider the best method.

5. Name the different kinds of bricks used in building. What are the relative advantages of each from a hygienic point of view.

6. Describe some system of warming and ventilating a hospital, asylum, or public building, on a natural (as distinguished from a mechanical) principle, explaining the methods for the admission of pure, and the extraction of vitiated, air.

7. Describe the various methods of softening hard water from chalk wells. Give a short description of the process most generally employed for a large town.

8. Sketch and explain how brick and stoneware sewers are constructed in waterlogged ground to ensure their being watertight.

The Candidates were examined vivâ voce on the 3rd.

Practical Sanitary Science.—Leeds, June 6th and 7th, 1902.

1. Explain clearly the action which takes place in softening water by boiling, and by the addition of lime.

2. Give the normal composition of air. What is the limit of carbonic acid that should not be exceeded in the air of a living room? Why is this limit fixed?

3. Describe fully how "made ground," contaminated with putrescent organic matter, undergoes self-purification.

4. Describe the manufacture of and methods of testing Portland cement. Specify the composition of good Portland cement concrete for foundations.

5. Describe the importance of ventilating the space beneath floor boards—name three kinds of timber that best resist the action of moisture.

6. Define hard and soft water. State the geological formations which yield hard water and those which yield soft water. State also the principal characteristics of river water and water derived from shallow and from deep wells.

7. What are the relative advantages and disadvantages of heating a public building by hot water and by steam, both under the low pressure and under the high pressure systems?

8. A 12-inch circular pipe sewer has a given gradient, set out a formula for calculating the volume of the discharge with varying depths of flow.

The Candidates were examined vivâ voce on the 7th.

Practical Sanitary Science.—Belfast, June 20th and 21st, 1902.

1. What is meant by the terms "Hydraulic mean depth;" "Head of pressure;" "Specific gravity;" "Capillarity;" "Absorption"?

2. What is meant by the humidity of the atmosphere? How is it measured? What do you understand by the term "relative humidity"?

3. What is meant by "prevailing winds"? Draw a "wind star" diagram. How does the pressure of the wind compare with its velocity?

4. Make sketches showing the construction of a filter for a public water supply for a population of 2,000 persons. State the maximum rate of filtration which in your opinion ought to be allowed.

5. Sketch and describe in detail the construction of a hollow wall (showing the "bond"), with damp-proof course and concrete foundation, for a large building to be constructed on a damp soil.

6. What are the constituents of Portland cement, and from what does it derive its hydraulic property? What is the setting of the cement due to? How would you proceed to test a sample of cement?

Sketch a schoolroom for (say) 40 children, showing positions and sizes of windows, provision for ventilation, and arrangement of desks and seats.

8. How would you carry out an inspection of a country house, with the usual stabling, offices, &c., adjoining, for the purpose of making a report on the sanitary condition to an intending purchaser?

The Candidates were examined vivâ voce on the 21st.

Practical Sanitary Science.—Liverpool, July 4th and 5th, 1902.

1. What is the discharge of air in cubic feet per minute through a square shaft 2 ft by 2 ft. and 40 feet high, the temperature at the bottom being 80 degs., and that of the external air at the outlet 55 degs.?

2. Mention some of the sources of air pollution in large towns, and state what bearing they have upon public health. What methods would you adopt for ensuring the purity of the air in—

(a) Factories and Workshops.

(b) Houses.

(c) Public buildings?

3. What is meant by "degree of hardness" in water? How would you differentiate between "hard" and "soft" waters; also between permanent and temporary hardness?

4. Describe and illustrate by sketches of 2 ft. to 1 in. two methods of forming—

(a) Sound-proof floors.

(b) Fire-resisting floors.

5. State briefly how you would light, heat, and ventilate:—

(a) An infectious diseases hospital.

(b) A twelve-roomed dwelling house.

6. Sketch the plan of a detached house, showing the best aspect for it. Indicate the positions of sitting rooms, bedrooms kitchen, larder, &c., and give reasons.

7. State the relative advantages and disadvantages of a combined and separate system of dealing with the sewage and rainfall of an urban district.

8. In cremating house refuse in a refuse destructor state the conditions as to temperature that govern effectual cremation. Explain how the sizes of the flues are determined, and the velocity of the waste gases calculated.

The Candidates were examined vivâ voce on the 5th.

Inspectors of Meat and Other Foods.—London, May 9th and 10th, 1902.

(Only eight of the questions to be answered.)

1. Mention the common parasites in the lungs of calves, sheep and pigs. Describe the conditions they produce, and the effects on the carcase.

2. What are the strong points of difference in the carcasses of a bull and cow, ram and ewe? How would you distinguish between the carcase of a wether and goat?

3. Describe the appearances of healthy lymphatic glands, and state the position of the chief glands in a carcase.

4. Describe the shape, size, and colour of a sheep's kidney. What differences are presented by the kidney of the pig, ox, and horse?

5. What is the normal internal temperature of the ox and sheep?

What rise would you expect to take place in the case of a distinct reaction to the injection of Tuberculin?

6. Should any steps be taken to control the amount of food or exercise given to animals immediately before slaughter?

7. Give a short resumé of the by-laws with reference to the construction of slaughter-houses. What procedure is necessary before a building can be used as a slaughter-house? Discuss the advantage or otherwise of public abattoirs over private slaughter-houses.

8. What cubic space and superficial area would you allow in a cowshed? How should milk be collected and stored prior to distribution?

9. What are the characteristics of good butter? What is the limit of water which should be present? What is the law with reference to the sale of margarine?

10. How would you proceed to examine tinned meat before issuing it for use? State briefly the chief dangers which have to be guarded against in using this class of foods when once the tin is opened.

The Candidates were examined vivâ voce on the 10th.

Inspectors of Meat & other Foods.—Liverpool, July 11th & 12th, 1902.

(Only eight of the questions to be answered).

1. How is "butter" defined under the Margarine Act of 1887, and what is margarine? What restrictions are imposed on the importation and sale of the latter.

2. What is the distinction between a *Registered* and *Licensed* Slaughter-house? What are the chief enactments incorporated in Sections 169 and 170, Public Health Act, 1875?

3. Describe the following organs, or parts, viz.;—Pelvis, Pleura, Peritoneum, Sternum, Diaphragm, Spleen, Pancreas.

4. What are the chief points that would guide you in distinguishing the carcase of an ox from that of a bull and heifer, and the carcase of a sheep from that of a goat?

5. What are the parasites usually associated with diseased meat, and how may they be recognised?

6. What are the glands most usually affected in diseased meat, and in what parts of the carcase are they situated? Contrast a healthy lymphatic gland with one affected with tuberculosis.

7. State briefly the conditions you would look for in the carcasses of animals which had been affected with the following diseases:—Pleuro-pneumonia, foot and mouth disease, anthrax, cattle plague, actinomycosis.

8. State the causes of unwholesomeness in fruit, fish, and eggs respectively, and the signs by which these are made evident.

9. Mention the chief points in the Local Government Board Order of 1877 with regard to the site and structure of Slaughter Houses.

10. What is meant by (a) chilled (b) de-frosted meat? Describe the appearance of each, and compare with that of home-killed meat.

The Candidates were examined vivâ voce on the 12th.

Practical Hygiene for School Teachers.—Leeds, June 6th & 7th, 1902.

1. What are the functions of the skin? How can these functions be best maintained?

2. Describe suitable clothing for children's underwear, (a) in summer, (b) in winter.

3. What is an incubation period? What is the incubation period for Diphtheria and for Scarlet Fever? Indicate the value of the knowledge of incubation periods to a teacher.

4. What precautions should be taken on the return of absentee scholars to school?

5. What would you do in the case of (a) severe hæmorrhage from the nose, (b) a fainting fit?

6. What various causes, relative to life in schools, may be productive of headache?

7. What hand work would you advise to be introduced into a mixed school—ages ranging from 11 to 17—for the purpose of bringing eyes and hands into quick response to one another.

8. What is the best aspect for a class room? Give definite reasons for your answer.

9. Draw an outline floor space of a class room for 40 scholars, showing the best position of fireplace, doors, windows, and teacher. Give dimensions.

10. Describe the sanitary requirements, with regard to w.c's, lavatories, and cloak rooms, in an elementary school of 300 children.

11. By what means can the temperature and purity of the air in a class room be maintained? What are suitable temperatures for a class room?

12. How would you use the school buildings and fittings for the purpose of demonstrating hygienic principles to the scholars?

The Candidates were examined vivâ voce on the 7th.

Inspector of Nuisances.—Birmingham, April 11th and 12th, 1902.

1. What do you understand by the term "combined drain"? How do the provisions of the Public Health Acts of 1875 and 1890, affect these drains?

2. What are the appearances you would expect to find, and not to find, in wholesome butcher's meat? Describe how and where you would look for tuberculous deposits in a suspected carcase sent to market without the organs.

3.—Enumerate the advantages of a public abattoir. What are the provisions of the model Bye-laws regarding whitewashing of slaughterhouses? Why should dogs not be kept in them.

4. Describe how you would disinfect the following articles worn or used by a small-pox patient:—a pair of boots, a blanket, personal linen, and a book from a free library.

5. What floor and cubic space is provided for in Statutes, Bye-laws, or Regulations, for:—(a) elementary and infant schools; (b) factories; (c) canal boats (for sleeping rooms); (d) common lodging houses.

6. Make sketches explanatory of the following:—(1) connection between soil pipe and house drain; (2) inspection chamber; (3) fresh-air inlet; (4) anti-siphonage pipe.

7. What method would you recommend for dealing with the refuse and waste waters in a country house where earth closets are in use?

8. Give sketches of three different forms of drain traps, and describe the advantages and drawbacks of each kind.

The Candidates were examined vivâ voce on the 12th.

Inspector of Nuisances.—London, May 2nd and 3rd, 1902.

1. State precisely what equipment you would take with you in setting out to purchase samples of milk in the public highway as an Inspector under the Sale of Food and Drugs Acts. What means of transit would you employ in sending such samples to the public analyst, assuming his laboratory to be some 10 miles away?

2. A workroom is found to have a superficial area of 20 feet by 12 feet, and is 10 feet in height. How many workers may it contain (a) during ordinary work, (b) during overtime? What deduction, if any, should be made for artificial lighting? How should the room be ventilated?

3. Upon what conditions does the danger of contamination of drinking water by lead depend, and how can it be minimised? Give a simple qualitative test which would enable you to suspect the presence of lead in a sample of water.

4. Mention three offensive trades. Describe in each case what it is that causes, or is likely to cause, offence.

5. What rules would guide you in deciding whether (1) a carcase of beef, and (2) a carcase of pork affected with tubercle, were wholly or only partially condemnable? By what authorities have these rules been laid down? Give the substance of any memoranda that have been issued by the Local Government Board on the subject.

6. What are the sources of infection in each of the following diseases:—Small-pox, Diphtheria, Enteric Fever. Select one of these diseases, and describe fully the precautions you would recommend to prevent the spread of the disease to others in the house or neighbourhood.

7. When inspecting houses, to what points would you direct your attention to ascertain whether the drainage is in proper condition? What are the methods in use for ascertaining defects in house drainage?

8. Give a sketch of the connections to a ground floor w.c. with description of the jointing; another w.c. is on the floor above, but need not be shown in the sketch.

The Candidates were examined vivâ voce on the 3rd.

Inspector of Nuisances.—Leeds, June 6th and 7th, 1902.

1. What powers are possessed by an Inspector under the Sale of Food and Drugs Acts to take a sample from the bulk in course of delivery (a) in the case of milk, (b) in the case of coffee.

2. What do you understand by the terms, "Natural Ventilation" and "Artificial Ventilation"? Give a sketch of three ventilators, and explain their action.

3. What parts of the animal (including carcase and offal) are the most likely to furnish evidence of Tubercle, Measles, and Hydatid disease, respectively?

4. How does steam operate in the disinfection of infected clothing, bedding, and the like? Describe the construction and the method of using a steam disinfecting apparatus. Define the terms "saturated steam" and super-heated steam."

5. An Inspector is informed of a nuisance caused by a blocked drain under a private dwelling house. Explain clearly his duties and powers to deal with this.

6. A stream used as a water supply is alleged to be polluted. Explain in detail how you would proceed to examine, mentioning the various points to which you would direct your attention in reporting thereon.

7. In laying a drain in a site consisting of loose materials commonly known as "made ground," describe what measures of precaution should be taken to secure a permanently sound drain, and describe how the jointing should be carried out.

8. Draw out a form of Report Book for entering the results of inspections of cowsheds.

The Candidates were examined vivâ voce on the 7th.

Inspector of Nuisances.—Belfast, June 20th and 21st, 1902.

1. Distinguish between a private nuisance, for which a private remedy only can be sought, and a public health nuisance, for the abatement of which summary proceedings may be resorted to under the Public Health Acts.

2. Describe how you would proceed to investigate the defects in a system of house drainage, and make a short specimen report upon defects in a house of, say, £50 rental, with especial reference to the insanitary conditions which more usually are found to prevail.

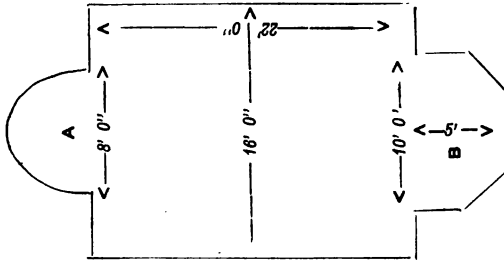
3. Sketch to scale a plan of a good cowshed for twelve cows. State in regard to each cow the dimensions of the floor space to be allowed, and how you would apportion it. Describe how you would arrange for disconnection from drains and for removal of filth.

4. Explain what is meant by "stripping," when a carcase is prepared for sale. How is this concealed? And how can the attempt be detected? What action would you take in the case of a stripped frozen carcase (New Zealand)?

5. What are the characteristics of water obtained from wells in chalk, oolite, sand, sandstone, limestone, and gravel? What do you

understand by the terms "permanent," "removable," and "temporary" hardness?

6. What are the advantages, respectively, of the disinfection of a room (a) with sulphurous acid gas; (b) by spraying the walls, &c., with a solution of perchloride of mercury; (c) by spraying the walls, &c., with formalin solution?



7. Find the contents in cubic ft. of a room 14 ft. 9 in. in height, as accompanying sketch, the bow window (A) being 9 ft. 3 in. high, and on plan a semi-circle 8 ft. diameter; the bay window (B) 10 ft. 9 in. high, and 10 ft.

across, on plan a semi-octagon, as shown in accompanying sketch.

8. What is meant by (1) a trough closet; (2) a slop closet; (3) a slop sink? Why is a valve closet unsuited for use as a slop sink?

The Candidates were examined vivâ voce on the 5th.

Inspector of Nuisances.—Liverpool, July 4th and 5th, 1902.

1. Explain in detail how you would collect a sample of water for analysis, and what precautions should be taken in transmitting the sample.

2. What diseases may be found in the liver of (a) the cow, (b) the sheep? How do they affect the value of the meat of the animal for food of man?

3. What are the cubic contents of a room 40 feet by 30 feet and 11 feet high, having a semi-circular bay at one end 20 feet wide? How many persons should be allowed to sleep in it? Give the calculations in detail.

4. Mention the various materials of which water-pipes are made. State the diameter of the pipes required for effectively serving a group of six water-waste preventers.

5. Under what circumstances is a cesspool permissible? and what are the requirements of the Model By-Laws issued by the Local Government Board as to the construction?

6. Sketch two forms of flush-tanks for water-closets, and explain their working.

7. What are the essentials of a good trap? In designing a trap with a water seal, what physical forces should be borne in mind as liable to cause unsealing?

8. Discuss the respective merits and demerits of (1) ordinary w.c.'s; (2) slop water-closets; and (3) pail-closets and midden-privies, from an economic and a sanitary standpoint.

The Candidates were examined vivâ voce on the 5th.

FORTHCOMING MEETINGS.

CALENDAR, JULY TO OCTOBER, 1902.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Exhibition Committee . . .	} Monday in the week preceding the Congress and Editing Committee	Council, at 4.30 p.m. & 5.30 p.m.
Museum and Library Committee		
	Tuesday in the week preceding the Council, at 5 p.m.	
Special Purposes Committee . . .	} Wednesday in the week preceding the Council, at 4 p.m. and 5 p.m.	
Finance Committee . . .		
Examination Committee . . .	Fourth Thursday in January, April, October, 5 p.m.	

Parliamentary Committee . . .	} As occasion requires.
Rivers Pollution Committee . . .	
Meat Inspectors Examination Committee . . .	

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.

JULY.

25 F. } Examination in Practical Sanitary Science and for Inspectors of
26 S. } Nuisances, Cardiff.

AUGUST.

4 M. BANK HOLIDAY—Museum Closed.

9 S. CORONATION " "

SEPTEMBER.

9 to 13. } The Nineteenth Congress at Manchester. Programme is given at page 101.

9 to 27 } The Nineteenth Health Exhibition at Manchester.

3 to 20 } Library closed.

26 F. Lecture to Sanitary Officers at 7 p.m. Mechanical Physics; Laws of Motion, Hydraulics, &c., by E. J. Steegmann, M.B., D.P.H.

29 M. Lecture to Sanitary Officers at 7 p.m. Natural Forces; Light, Heat, Electricity; Chemistry, by E. J. Steegmann, M.B., D.P.H.

OCTOBER.

1 W. Lecture to Sanitary Officers at 7 p.m. The Atmosphere; Pressure and Composition; Air; Combustion and Respiration, by E. J. Steegmann, M.B., D.P.H.

3 F. Lecture to Sanitary Officers at 7 p.m. Meteorology, by E. J. Steegmann, M.B., D.P.H.

3 F. Demonstration—Meat Inspectors Course.

4 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.

4 S. Inspection and Demonstration at Wimbledon Sewage Works, at 2.30 p.m., conducted by C. H. Cooper, M.INST.C.E., Engineer and Surveyor to District Council.

- 7 T. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, A: Introductory Remarks. Public Health Acts—English, Scotch, Irish; other Statutes relating to Public Health; By-Laws (Model, &c.), Regulations, Orders, Memoranda, &c., by J. Priestley, B.A., M.D., D.P.H.
 - 8 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, B: Public Health (London) Act; Metropolis Local Management Acts; By-Laws and Regulations in Force in the Administrative County of London, by J. Priestley, B.A., M.D., D.P.H.
 - 8 W. Inspection and Demonstration at Lambeth Disinfecting Station, Wanless Road, Loughborough Junction, at 2.30 p.m.
 - 10 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, C: Factory and Workshop Acts (including Bakehouse Legislation. 1878–1895), as they affect the Sanitary Inspector: Smoke Legislation. Food and Drugs Act, 1899, by J. Priestley, B.A., M.D., D.P.H.
 - 11 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.
 - 11 S. Inspection and Demonstration at
 - 11 S. Demonstration—Meat Inspectors Course.
 - 18 M. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, A: Outdoor, by J. Priestley, B.A., M.D., D.P.H.
 - 15 W. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, B: Indoor, by J. Priestley, B.A., M.D., D.P.H.
 - 15 W. Inspection and Demonstration in the District of St. Marylebone, at 3 p.m. (number limited), conducted by T. Gorniot, Sanitary Inspector.
 - 17 F. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—C: Offensive Trades and Trade Nuisances, &c., by J. Priestley, B.A., M.D., D.P.H.
 - 17 F. Demonstration—Meat Inspectors Course.
 - 18 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.
 - 18 S. Inspection and Demonstration of Disinfecting Apparatus and Model Steam Laundry, at St. John's Wharf, Fulham, at 2.30 p.m., conducted by W. G. Lacy.
 - 20 M. Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by A. Wellesley Harris, M.R.C.S., D.P.H.
 - 21 T. Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
 - 21 T. Inspection and Demonstration at John Knight & Sons' Soap Works, Silvertown, at 3 p.m.
 - 24 F. Lecture to Sanitary Officers at 7 p.m. Water; Composition, Pollution, and Purification, by A. Wellesley Harris, M.R.C.S., D.P.H.
 - 25 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.
 - 25 S. Inspection and demonstration at the Southwark and Vauxhall Water Works, Hampton, at about 2.30 p.m.
 - 25 S. Demonstration—Meat Inspectors Course.
 - 28 T. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by H. R. Kenwood, M.B., D.P.H., F.C.S.
 - 29 W. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.
 - 29 W. Inspection and demonstration at L.C.C. Common Lodging House, Parker Street, Drury Lane, W.C., at 3 p.m.
 - 30 T. Demonstration of Book-keeping as carried out in a Sanitary Inspector's Office, in the Parkes Museum at 7 p.m., by Albert Taylor, Sanitary Inspector, City of Westminster.
 - 31 F. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.B.T.B.A.
 - 31 F. Demonstration—Meat Inspectors Course.
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FELLOWS, MEMBERS, AND ASSOCIATES

ELECTED APRIL-JULY, 1902.

Reg. No. Date of Election.

FELLOWS.

- ⁸¹ 1902. June. CHATTERTON, George, M.INST.C.E., 6, *The Sanctuary, Westminster.*
- ⁷⁴⁸ 1902. June. LAW, Henry Herbert, M.INST.C.E., 21, *Pembroke Road, Kensington, W.*
- ⁹¹³ 1902. June. TATTERSALL, Charles Hermann, L.E.C.P., M.R.C.S., L.S.SC.DUR., *Medical Officer of Health, Town Hall, Salford.*

MEMBERS.

* Passed Examination in Practical Sanitary Science.

- ¹⁵⁷³ 1902. June. ADAMSON, William, *Union Castle Buildings, Cape Town, S.A.*
- ¹⁵⁷⁴ 1902. June. *ALEXANDER, Connal William Long, B.E., *Imlick Carrigans, Donegal, Ireland.*
- ¹⁵⁷⁵ 1902. June. *BATE, Ernest Montague, *Town Hall, Upper Street, Islington, N.*
- ¹⁵⁸⁴ 1902. Apr. BEACHAM, William Ernest, *Town Hall, Rochdale.*
- ¹⁵⁷⁶ 1902. June. BURGESS, William Thomas, F.I.C., 46, *Portland Rd., Holland Park Avenue, W.*
- ¹⁵⁷⁷ 1902. June. CLARKE, George Edgar, ASSOC.M.INST.C.E., *City Surveyor's Department, Town Hall, Sheffield.*
- ¹⁵⁸⁵ 1902. Apr. CORRIE, H. W., *Surveyor, District Council Offices, Lower Bebington.*
- ¹⁵⁷⁸ 1902. June. COWLEY, Frank, F.S.I., *Finch Lodge, Ryde, I. W.*
- ¹⁵⁹¹ 1902. July. *DALGLEISH, Charles, 88, *Goldsmith Avenue, Acton.*
- ¹⁵⁷⁹ 1902. June. *DENSHAM, Sidney Charles, 42, *Wellington Road, St. John's Wood, N.W.*
- ¹⁵⁸⁰ 1902. June. *DIAMOND, George, *Lime Avenue, Penhurst, near Tonbridge, Kent.*
- ¹⁵⁸⁶ 1902. July. *GARTZWEILER, Cornel Leonhard, *Mechanical and Sanitary Engineer, Johannesburg.*
- ¹⁵⁸⁸ 1902. July. GHANY, Mohamed Abdul, M.B., C.M., L.R.C.P., M.R.C.S., D.P.H., *Medical Officer of Health, Hyderabad, Deccan.*
- ¹⁵⁸⁹ 1902. May. *GRAVE, Guy B., 17, *Circus Road, St. John's Wood.*
- ¹⁵⁸³ 1902. June. HORROCKS, William Heaton, M.B., B.SC., D.P.H., *Major, R.A.M.C., Netley.*
- ¹⁵⁸⁹ 1902. July. HOWATSON, Ernest Hodgson, *City Engineer's Office, Leeds.*

Reg. No.	Date of Election.	
1581	1902. June.	*HOWELLS, D. P., <i>Town Hall, Upper St., Islington, N.</i>
1570	1902. May.	KERR, James, M.A., M.D., D.P.H.CAMB., <i>Medical Officer, London School Board.</i>
1566	1902. Apr.	LAITHWAITE, Vincent William, <i>Rigby Lane, Bromley Cross, near Bolton.</i>
1592	1902. July.	OXBERRY, Frederick Walter, 32, <i>East Mount Road, York.</i>
1590	1902. July.	PALMER, Miss Agnes, 9, <i>The Gardens, E. Dulwich.</i>
1584	1902. June.	*PRESTON, John Roger, <i>Morecambe Lodge, Yealand Curnforth.</i>
1585	1902. June.	*RANSOM, William, <i>Midhurst, Bath Road, Worcester.</i>
1587	1902. July.	*SPRINGALL, George H., <i>Wilberforce Road, Hendon.</i>
1587	1902. Apr.	SUKHIA, Nadirshaw H. E., <i>Sukhia Bldgs., Patel Street, Fort Bombay.</i>
1571	1902. May.	TOWERS, William, <i>Building Surveyor, Municipal Buildings, Leeds.</i>
1582	1902. June.	*VARE, William E., <i>Bodorgan, Weybridge.</i>
1568	1902. Apr.	WILCOX, William Henry, M.D., D.P.H., <i>St. Mary's Hospital, Medical School, Paddington, W.</i>
1572	1902. May.	WILKINSON, Percy John, D.P.H., L.R.C.P., M.R.C.S., 10, <i>Hillside Mansions, Highgate, N. (Assistant M.O.H., Westminster).</i>

ASSOCIATES.

‡ Passed Examination for Inspectors of Nuisances.

2511	1902. Apr.	ADKINS, George William, 36, <i>Chalcot Crescent, Regent's Park Road, N.W.</i>
2524	1902. May.	‡ALEXANDER, William Stewart Peddie, 1, <i>Fords' Lane, Dundee.</i>
2554	1902. June.	‡ALLEN, John, <i>Lew Trenchard, Lewdown R.S.O.</i>
2599	1902. July.	‡BACK, Frederick Thomas, <i>Style Place, Hadlow.</i>
2542	1902. May.	‡BAGSHAW, Allen, 123, <i>Hornsey Road, N.</i>
2525	1902. May.	‡BAILEY, John Henry, <i>Inspector of Nuisances, Boscastle, Cornwall.</i>
1526	1902. May.	‡BAKER, Alfred Owen, 15, <i>Cecil Street, Plymouth.</i>
2598	1902. July.	‡BARLOW, Jonathan, 12, <i>Cattle Street, Gt. Hawood.</i>
2576	1902. June.	‡BARRETT, Commander F. W., R.N., 107, <i>South Hill Park, Hampstead, N.W.</i>
2512	1902. Apr.	‡BATEMAN, John Gilbert, <i>Rhymney Villa, Marazion.</i>
2577	1902. June.	‡BINDING, Elias, 108, <i>Lawrence Hill, Bristol.</i>
2809	1902. July.	‡BLAND, Herbert Francis, 160, <i>Waller Road, New Cross, S.E.</i>
2555	1902. June.	‡BLENCH, John, <i>Green Croft Villas, East Boldon, Co. Durham.</i>
2556	1902. June.	‡BRETT, Lancelot Ernest, <i>Colonial Civil Service, Hong Kong.</i>

Reg. No.	Date of Election.	
2557	1902. June.	†BROOKS, Miss Alice Maud, <i>St. Mary's School, Hanley Castle, Worcester.</i>
2571	1902. June.	†BULLOUGH, James Arthur, 6, <i>Foxholes, Horwich.</i>
2510	1902. July.	†BUTLER, Alfred Reginald, 4, <i>Prospect Road, Tunbridge Wells.</i>
2511	1902. July.	†CHAPMAN, Fred Baymond, <i>Glaston Rd., Uppingham.</i>
2513	1902. Apr.	†CLOUGH, Ernest, 6, <i>Garden Street, Tunbridge Wells.</i>
2514	1902. Apr.	†COLEMAN, Harry, <i>Municipal Buildings, Middlesborough.</i>
2513	1902. May.	†CORDINEE, John, 11, <i>Back Street, Peterhead, N.B.</i>
2500	1902. July.	†CROSBIE, Mrs. Flora, <i>Kent House, Kensington Court, W.</i>
2515	1902. Apr.	†DAVIES, Stanley, 8, <i>Fairview Avenue, Liscard, Ches.</i>
2516	1902. Apr.	†DAVIES, William Robert, 42, <i>Ferndale Terrace, Appleton, Widnes.</i>
2527	1902. May.	†DAWE, William Henry, 16, <i>St. Leonards Road, Plymouth.</i>
2513	1902. July.	†DUNNING, Alfred, <i>Creabor, Gidleigh, Devon.</i>
2516	1902. Apr.	†ECKLEY, John Eckley, 4, <i>Templeton Terrace, Blackpool.</i>
2579	1902. June.	†ENGLAND, Fredk. George, <i>Health Department, Town Hall, Sunderland.</i>
2528	1902. May.	†ESPLIN, Joseph, <i>Newington Cottage, Scott Street, Brechin, N.B.</i>
2590	1902. June.	†FENWICK, Edward Dryden, <i>Gamesley Dinting, Derbyshire.</i>
2558	1902. June.	†FIDDIES, Thomas Alexander, 8, <i>Devon St., Corporation Road, Ilkeston.</i>
2581	1902. June.	†FIRMIN, Arthur Charles, 1, <i>Melbourne Road, Walthamstow.</i>
2582	1902. June.	†FLOWER, William James, 10, <i>Shelley Avenue, E. Ham.</i>
2544	1902. May.	†FORREST, Alexander, 10, <i>Torrance Place, Dalmuir, N.B.</i>
2529	1902. May.	†FORSYTH, Thomas, 120, <i>Cardross Street, Glasgow.</i>
2583	1902. June.	†FORT, Alfred, <i>Market Street, Edenfield, Lancaster.</i>
2584	1902. June.	†FRANKS, Mrs. Gertrude, 78, <i>Ball Road, Hillsbro', Sheffield.</i>
2559	1902. June.	†GARNAB, Edward George, 11, <i>Carlton Rd., Brockley.</i>
2585	1902. June.	†GENDERS, Percy Robert, 6, <i>Deerbrook Road, Herne Hill, S.E.</i>
2580	1902. June.	†GETHING, Charles Edward, <i>Wordsley, near Stourbridge.</i>
2586	1902. June.	†GOULTON, Frederick William, 1A, <i>Grove Park Road, S. Tottenham.</i>
2587	1902. June.	†GRACE, Arthur William, <i>Manchester St., Exmouth.</i>
2545	1902. May.	†GREENER, William Henry, <i>Bentham R.S.O.</i>
2532	1902. May.	†HAMER-JACKSON, Mrs. C., 120, <i>Queen's Road, Finsbury Park, N.</i>
2530	1902. May.	†HAMILTON, Alexander, 270, <i>Main Street, Shettleton, N.B.</i>

Reg. No.	Date of Election.	
2561	1902. June.	†HARVEY, James William, 5, <i>Hanover Gardens, Kennington Park, S.E.</i>
2520	1902. Apr.	†HENLEY, Amos Seymour, <i>Town Hall, Church Row, Bethnal Green.</i>
2546	1902. May.	†HILL, Percy Harry, 63, <i>Belgrave Road, Mutley, Plymouth.</i>
2562	1902. June.	†HINCE, Frederick Ernest, 2, <i>Queen Margaret's Grove, Mildmay Park, N.</i>
2531	1902. May.	†HOWIE, Archibald, <i>Bonnington Grove Villa, Edinburgh.</i>
2601	1902. July.	†HOWITT, Thomas R., 10, <i>Front St., Tynemouth.</i>
2521	1902. Apr.	†HUDSON, John M., <i>Ellesmere Port, Cheshire.</i>
2517	1902. Apr.	†IELAM, John William, 85, <i>Barton Road, Stretford.</i>
2588	1902. June.	†JACKSON, Robert, 22, <i>Bell Street, Oldham.</i>
2589	1902. June.	†JOHNS, Richard, 2, <i>Gillian Street, Ladywell, S.E.</i>
2519	1902. Apr.	†JONES, John Roughsedge, 3, <i>Watt Street, Bolton.</i>
2590	1902. June.	†JONES, Neville, 6, <i>Deerbrook Road, Herne Hill, S.E.</i>
2602	1902. July.	†LAMB, Thomas Baxter, <i>Inspector of Nuisances, Morecambe.</i>
2613	1902. July.	†LARTER, Albert Lewis, 17, <i>Whitehall Gardens, Chiswick, W.</i>
2614	1902. July.	†LERESCHE, Miss Ellen FitzAdam, 10, <i>St. Paul's Rd., Kersal, Manchester.</i>
2591	1902. June.	†LEWIS, George Gibson, 92, <i>Glebe Street, Penarth.</i>
2533	1902. May.	†LOGIE, Alexander, 8, <i>Union Street, Stirling.</i>
2547	1902. May.	†LORD, John, <i>Sanitary Inspector, 12, Brassey Road, Queensland, Winchester.</i>
2615	1902. July.	†MARSDEN, William E., 1, <i>Almond St., Darwen.</i>
2592	1902. June.	†MARSH, Henry, 44, <i>Wise Street, Dresden, Longton, Staffs.</i>
2548	1902. May.	†MARTIN, Miss E. Mary, <i>The Vicarage, Stockton-on-Tees.</i>
2549	1902. May.	†MATTHEWS, D. S., <i>Borough Offices, Milton Road, Stoke Newington.</i>
2603	1902. July.	†MIDDLEBROOK, Miss Alice Mary, <i>Warboys, Hunts.</i>
2534	1902. May.	†MILLAR, Alexander, 19, <i>Primrose Terrace, Edinburgh.</i>
2593	1902. June.	†MILLER, Horatio Waters, <i>Kelsall Lodge, Church Road, Leyton, E.</i>
2604	1902. July.	†MILLER, William, <i>Brainzet Cottage, Cumnoch, N.B.</i>
2550	1902. May.	†MORTON, Henry, 10, <i>St. Jude's Road, Tettenhal Road, Wolverhampton.</i>
2563	1902. June.	†NELSON, Miss Mary A., 2, <i>Blandford Gardens, Woodhouse Lane, Leeds.</i>
2564	1902. June.	†PANGE, Prabhaker Crishnajee, <i>Tilbhandeshwar Temple, Nasik City, India.</i>
2616	1902. July.	†PARLE, John, 7, <i>West St., Castlefields, Shrewsbury.</i>
2565	1902. June.	†PINKNEY, John David Henry, 7, <i>Melita Road, St. Andrew's Road, Bristol.</i>
2566	1902. June.	†PRICE, David, 1, <i>Calais Road, Burton-on-Trent.</i>

Reg. No.	Date of Election.	
2605	1902. July.	†RHODERICK, Moses, 92, Wood Road, Treforest.
2617	1902. July.	†RIDSDALE, Ernest, 12, Durham St., Stockton-on-Tees.
2667	1902. June.	†ROACH, Thomas Malcolm, Downside, Twyford, Winchester.
2535	1902. May.	†ROBERTSON, Daniel, 107, Montrose Street, Brechin N.B.
2538	1902. May.	†RODGER, William, Elleebank Cottage, East Thornlie Street, Wishaw, N.B.
2537	1902. May.	†SCOTT, Thomas Fergusson, Juniper Green, Midlothian.
2568	1902. June.	†SHEPHERD, Robert Harold, 260A, Fulham Rd., S.W.
2522	1902. Apr.	†SHERIFF, Frank, 104, Priory Park Road, Kilburn, N.W.
2564	1902. June.	†SHUTTLEWORTH, William, Health Dept., Town Hall, Salford.
2607	1902. July.	†SIMCOX, George, Town Hall, Dunstable.
2618	1902. July.	†SMITH, Miss Anna Isabella, 1a, Waterloo St., Oldham.
2595	1902. June.	†SMITH, Arthur F., 7, Brune Terrace, Stoke Road, Gosport.
2589	1902. June.	†SMITH, George Alfred, 13, Bolton Lane, Ipswich.
2570	1902. June.	†SMITH, George Henry, 31, Southwell, Portland.
2558	1902. May.	†SWINNEY, William Dixon, 128, Hutcheon Street West, Aberdeen.
2596	1902. June.	†TAYLOR, Charles Henry, The Angles, 22, Royal Parade, Eastbourne.
2571	1902. June.	†THOMPSON, Benjamin Spanton, 80, Settrington Road, Fulham, S.W.
2539	1902. May.	†TOWNEND, Miss Annie, 69, Roker Avenue, Sunderland.
2551	1902. May.	†WALLACE, Charles, Auchindryne, Braemar.
2572	1902. June.	†WARD, Charles Arthur, 46, Dora Rd., Small Heath, Birmingham.
2540	1902. May.	†WEIR, Thomas Logan, Fettes College, Edinburgh.
2573	1902. June.	†WHITEHEAD, S., Galley Common, Atherstone.
2574	1902. June.	†WILKINS, Albert Edward, Elsinore, Windsor Road, St. Andrew's, Bristol.
2597	1902. June.	†WILLIS, Charles Stanley, 94, Coronation Rd., Bristol.
2511	1902. May.	†WILSON, William Muir, Salisbury Road, Kirkton, Burntisland, Fife.
2575	1902. June.	†WINDER, Miss Elizabeth Gervais, Tourville, Rathfarnham, Dublin.
2619	1902. July.	†WOODCOCK, Edwin Thomas John, 100, Halkett Place, St. Helier's, Jersey.
2552	1902. May.	†WORDEN, Francis James, West Street, Okehampton.
2620	1902. July.	†WORSFOLD, Frederick Charles, 8, Barmouth Road, Wandsworth, S.W.
2608	1902. July.	†YOUNG, Mrs. Catherine, 92, Isledon Road, Finsbury Park, N.

CONTRIBUTIONS AND ADDITIONS TO LIBRARY

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* * For publications of Societies and Institutions, &c., see under
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Third Series, Vol. XXIII. 463 pp., 8vo. Philadelphia, 1901.

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- Bolton.** First Annual Report of the Manager of Hacken Precipitation, Sludge Pressing, and Destructor Plant, and Rhodes Farm Sewage Filtration Area. 22 pp., 8vo. Bolton, 1902. *J. Ashton, Manager.*
- Brown, Sir G. T., C.B.** The Pig; its external and internal organisation,—an illustrated representation and brief description. 33 pp. *Purchased.*
- Cairo.** Ministry of Public Instruction. Record of the Egyptian Government School of Medicine. 251 pp., fcp. Cairo, 1901. *H. P. Keatinge, M.B., Director.*
- Deycke, Dr. G.** The conditions under which Pathogenic Germs perish on certain Paints. 14 pp., 8vo. London, 1902. *The Author.*
- Disney, G. W.** Sanitation of Mofussil Bazaars. 38 pp., 8vo. Calcutta, 1902. *The Author.*
- Edwards, E. J., M.D.** A Concise History of Small-Pox and Vaccination in Europe. 142 pp., 8vo. London, 1902. Price 2s. 6d. *H. K. Lewis (publisher)*
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- direction of W. H. M. Christie, C.B., F.R.S., Astronomer Royal. 177 pp., 4to. Edinburgh, 1901. *The Astronomer Royal.*
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- Kelvin, Lord, and Barr, Prof. A.** Report by, on the Horsfall Destructors. 19 pp., fcap. 1898. *W. Whitaker, F.R.S.*
- Lemmoin-Cannon, H.** The Sanitary Inspector's Guide. 257 pp., 8vo. London, 1902. (P. S. King & Son.) *The Author.*
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- Dr. L. W. Darra Mair's Report on a Localised Outbreak of Enteric Fever at Coventry. 11 pp., fcap. London, 1902.
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- Experiments on Disinfection. 14 pp., fcap. London, 1902. *Shirley F. Murphy, M.O.H.*
- Madrid.** Sevilla (Huelva, Cadiz, Malaga, Granada, Bilbao, Zaragoza, Valladolid, etc.), por el Excmo Sr. D. Angel Pulido Fernández. 323 pp., 8vo. Madrid, 1902. *T. A. Greenhill.*
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- St. Helen's, 1901** *F. Drew Harris, M.B., D.P.H.*
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- Fox, G. H., A.M., M.D.** A Practical Treatise on Small-pox. J. P. Lippincott & Co., Philadelphia.
- Giles, Lieut.-Col., G. M., M.B., I.M.S.** A Handbook of the Gnats or Mosquitoes, giving the Anatomy and Life-history of the Culicidæ, together with descriptions of all species noticed up to the present date. Second Edition. Bale, Sons & Danielsson.
- Glaister, J., M.D., D.P.H., F.R.S.E.** A Text-book of Medical Jurisprudence, Toxicology, and Public Health. G. & S. Livingstone.
- Goorkom, W. J. Van.** Over Malaria in Muckieten. A. J. Jahn.
- Hatfield, M. P., A.M., M.D.** The Acute Contagious Diseases of Childhood. G. P. Englehard & Co., Chicago.
- Holt, Emmett, M.D.** The Care and Feeding of Children. Second Edition. H. Kimpton.
- Mann, J. Dixon, M.D., F.R.C.P.** Forensic Medicine and Toxicology. C. Griffin & Co.
- Marks, Percy L.** The principles of Planning. B. T. Batsford.
- Michael & Will, J. Shiriss, K.C.** On the Law relating to Gas and Water. Fifth Edition. Butterworth & Co.
- Miquel, M. P., et Cambier, M. R.** Traité de Bactériologie: Pure et Appliquée à la Médecine et à l'Hygiène. C. Naud, Paris.
- Nicholson, W.** Practical Smoke Prevention. The Sanitary Publishing Co.
- Oliver, Thomas, M.D., F.R.C.P. (Editor).** Dangerous Trades: The Historical, Social, and Legal Aspects of Industrial Occupations as affecting Health, by a number of Experts. J. Murray.
- Poore, G. V., M.D.** The Earth in Relation to the Preservation and Destruction of Contagia. Longmans Green & Co.
- Popplewell, W. C., M.Sc., A.M.Inst.C.E.** The Prevention of Smoke. Scott Greenwood & Co.
- Reverdy, Dr. Georges.** Hygiène des Hopitaux: Construction, Installation, et Ménagement. J. B. Baillière et Fils.
- Ross, Ronald, F.R.C.S., D.P.H.** Mosquito Brigades and how to Organise them. Philip & Son.
- Salter, M. J., F.I.C., F.C.S.** The Prevention of Dampness in Buildings. Scott Greenwood & Co.
- The Climates and Baths of Great Britain.** Being the Report of a Committee of the Royal Medical and Chirurgical Society of London. Macmillan & Co.
- Theobald, F. V., M.A.** A Monograph of the Culicidæ or Mosquitoes. Longmans Green & Co.
- Wheelwright, E. M.** School Architecture. Rogers & Manson.

GENERAL NOTES.

TRAINING OF SANITARY SURVEYORS AND SANITARY INSPECTORS IN INDIA.—A Committee was appointed by the Education Department of the Government of India to prepare a scheme for the training of Sanitary Surveyors, and this Committee have issued a long report, containing among other the following recommendations:—

* * * *

(c) That the course of instruction in Bombay should be for six months, presumably from January to end of June; and that it should terminate with an examination to be held by the Health Department, Bombay, for a diploma or certificate similar to those issued by The Sanitary Institute of Great Britain.

* * * *

(g) The course of study would be practically that laid down for the Sanitary Inspectors of Bombay. A copy of the curriculum† of that course is appended for the information of Government.

11. The Sanitary Commissioner, though agreeing with the proposals now submitted to Government, desires to append to this report a memorandum* containing proposals for a further development in the direction of sanitary training which will provide for the instruction of such men as Sub-Overseers and Hospital Assistants who at present get no sanitary training whatever, but who are often expected to advise and assist Municipal and Local Boards in matters of sanitation. The memorandum is appended for the consideration of Government.

12. It is possible that, in connection with that memorandum, Government may think it desirable to consider the advisability of founding a Sanitary Institute for this Presidency on the lines of The Sanitary Institute of Great Britain. Such an Institute would be formed with the object of advancing Sanitary Science in all its branches, and for the diffusion of knowledge relating thereto. It would be, presumably, supported by the fees of members and associates and by a subsidy from Government, and would eventually, perhaps, assume the position held by The Sanitary Institute of Great Britain as an Examining Body.

The Technical Examination shall be written, oral, and practical, upon the following subjects, so far as they bear upon the duties of a Sanitary Inspector: -

1. Elementary Physics and Chemistry in relation to Water, Soil, Air and Ventilation.
2. Elementary Statistical Methods.

† Appendix B. Printed as an accompaniment to this Resolution.

* Appendix C. Printed as an accompaniment to this Resolution.

3. Municipal Hygiene or Hygiene of Communities, including Prevention and Abatement of Nuisances, Sanitary Defects in and about Buildings and their Remedies, Water Supplies, Sanitary Appliances, Drainage, Refuse, Removal and Disposal, Offensive Trades, Disinfection, Food Inspection.
4. Bombay Municipal Act Statutes, and the Orders, Memoranda, and Model Bye-laws in force in the Municipality of Bombay.

Each candidate will be expected to report on the sanitary condition of a house and send in a plan.

The syllabus which follows being an exact copy of the syllabus of the Practical Sanitary Science Examination of The Sanitary Institute is not reprinted.

The Report also suggests that a Lecture Room be built and fitted with the necessary Sanitary Models, and should be on the same lines as The Sanitary Institute of Great Britain and affiliated to it, and the public admitted at certain hours to it.

TRAINING IN HYGIENE FOR WOMEN.—Bedford College for Women, London, are carrying on a very thorough Course of Instruction in Hygiene, including Physiology, Bacteriology, Chemistry, Physics, Meteorology. The Course extends over three terms, and consists of practical work in the Laboratory on two afternoons each week, followed by aural instruction of about an hour's duration; and in connection with the lectures, visits are paid to places of interest from a public health point of view. A special feature of the Course is the training and practical work in the Laboratories of the College, as it is almost impossible for women, unless medical students, to obtain such training elsewhere in the Metropolis.

The Course should be a very useful one to those who wish to thoroughly study the Science of Hygiene, and to equip themselves with the knowledge required for carrying out Hygienic work in England and other parts of the Empire.

This Special Training Course is much fuller and more complete on the Scientific side than the Course of Practical Hygiene for School Teachers, arranged jointly by the Institute and Bedford College, which especially applies to the Practical need of School Teachers, and leads up to the Examination of Practical Hygiene for School Teachers held by the Institute.

PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

PRELIMINARY LIST OF DONATIONS.

Amounts already reported :

	£	s.	d.
Capital allotted	7,000	0	0
Vice-Presidents	258	0	0
Members of Council	95	6	0
Members and others	541	4	0
<i>To the Douglas Galton Gallery</i>	145	10	0

Since the last report the following Donations have been made:—

Additional amounts :

J. M. Beveridge	1	1	0
W. G. Black	2	2	0
J. Cook	1	1	0
Davis & Bennett	3	3	0
E. Dav	1	1	0
A. Wellesley Harris	1	1	0
H. Helsdon	1	1	0
S. S. Hellyer	21	0	0
J. R. Kaye	2	0	0
C. J. Kilgallin	1	1	0
Mrs. C. Lyndon	5	5	0
H. P. Mathias	2	2	0
E. G. Mawbey	3	3	0
J. G. Mills	1	1	0
E. H. Morton	5	5	0
J. B. Norton	1	1	0
T. Reunert	5	0	0
T. Hall Redwood	1	0	0
Shanks & Co.	10	10	0
A. Taylor	2	2	0
Other amounts	6	13	6

SUPPLEMENT TO THE
JOURNAL
OF
THE SANITARY INSTITUTE.

*The following Address was prepared by the Council of
The Sanitary Institute and sent by presentation to His
Majesty on the occasion of the Coronation.*

TO HIS MOST EXCELLENT MAJESTY
EDWARD VII., by the Grace of God, of the
United Kingdom of Great Britain and Ireland,
and of all the British Dominions beyond the
Seas, King; Defender of the Faith; Emperor
of India.

The humble address of The Sanitary Institute:—

MAY IT PLEASE YOUR MAJESTY,

We, the President, Vice-Presidents, and Council of
The Sanitary Institute, on behalf of the incorporated Members of
that body, desire to approach your Majesty on the auspicious
occasion of your assumption of the Crown of your Kingdom and
Empire, and to lay at the foot of the Throne our assurances
of deep loyalty and devotion, together with our dutiful ex-
pressions of thankfulness on your Majesty's rapid recovery from
a most perilous illness.

Incorporated in the reign of our late beloved Queen Victoria, The Sanitary Institute rejoices that during the twenty-five years that it has been established, it has been privileged by spreading the knowledge of Sanitary Science, to give some effect to the aspiration of Her late Majesty for the amelioration of the material and social conditions of her people. It has assisted in bringing home to thousands a recognition of the duty and responsibility of each to his neighbour with respect to health of body and mind.

The Institute has carried the banner of Hygiene to all parts of the World, its Members, numbering two thousand five hundred, are spread over all the Dominions of the Empire, and definite centres for work have been established throughout Great Britain, and in the Dominion of Canada, the Commonwealth of Australia, and in South Africa.

At home, by largely attended annual Congresses and Exhibitions in the principal cities and towns of the United Kingdom, the work is popularised and the attention arrested of rich and poor, a public spirit is thus stimulated which eventuates in suggesting and facilitating the passing of statutes relating to the Public Health,—the better Housing of the poor,—the improvement hygienically of Factories, Workshops, and Schools,—the prevention of pollution of rivers, and of the adulteration of food,—the purification of cities,—the widening of streets, and generally increasing the amenities of urban life.

Your Majesty's long and active personal interest in Sanitary matters, and particularly in hospitals; your most recent and gracious act in raising the Standard of a National Crusade against Consumption and Cancer, are but evidences that your constant thought is for the people's good, and most, for those who need it most, the suffering sick and poor. Under God's blessing the Crown and glory of your Majesty's life will be the gratitude of the sick raised to health, the weak to strength, the despairing to hopefulness, through the curative agencies which have in you their warmest Patron, Advocate, and Friend.

We earnestly pray that your Majesty and your Majesty's

Gracious Consort our beloved Queen Alexandra may be long spared, beneficently to reign over a happy and contented people, united in an ever strengthening bond of loyalty to your Throne and person.

Signed on behalf of the Institute, this first day of August in the year one thousand nine hundred and two.

In token whereof the Common Seal
of the Institute was hereunto
affixed in the presence of us



GEORGE, President.

G. V. POORE, Registrar.

A. WYNTER BLYTH, Chairman of Council.

E. WHITE-WALLIS, Secretary.

REVIEWS OF BOOKS.

A CONCISE HISTORY OF SMALL POX AND VACCINATION IN EUROPE.*

A carefully prepared little work, which should be most valuable at the present juncture. Quoting exactly in every case, it gives the figures of enormous mortality of small-pox previous to the introduction of vaccination, and traces the history of the practice.

Especially instructive is the chapter referring to the transfer of mortality from small-pox from childhood to adult age, consequent on the gradually decreasing protection from vaccination, showing clearly the logical necessity for re-vaccination.

A little work that should be read by those who have to guide the public mind in this important question.

W. C.

ARTICLES RELATING TO PUBLIC HEALTH,

Appearing in the chief British and Foreign Journals and Transactions.

Abstracts of Titles classified in this List under the following headings:—

Science in Relation to Hygiene and Preventive Medicine.
Hygiene of Special Classes, Trades, and Professions; and
Municipal Administration.

Building Materials, Construction, and Machinery.

Water Supply, Sewerage, and Refuse Disposal.

Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

ALTSCHUL, DR. TH. Bakteriologie, Epidemiologie, und medicinische Statistik. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 3, p. 345.

The author deals in an original and somewhat unorthodox manner with the prevailing views in bacteriology, epidemiology, and medical statistics.

BABES, V. Die Bekämpfung der Rotzkrankheit des Pferdes.

* A concise history of Small-pox and Vaccination in Europe. By Dr. E. J. Edwardes, M.D., 142 pp., 8vo., London, 1902. H. K. Lewis. Price 2/6.

Zeitschrift für Hygiene und Infektionskrankheiten, Vol. XXXIX., Heft 2, p. 217.

The paper deals with the prevention of glanders in horses.

BIRT, Major C., R.A.M.C. Enteric Fever in the Inoculated. *British Medical Journal*, 11th Jan., 1902, p. 75.

CAMERON, Sir CHARLES A., C.B., M.D. On Some Controversial Points in Preventive Medicine. *Journal of State Medicine*, September, 1902, p. 505.

CASTELLANI, Dr. A. Die Agglutination bei gemischter Infection und die Diagnose der letzteren. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 2, p. 1.

The paper deals with agglutination in mixed infection and with the diagnosis of the latter.

CATTLE, C. H., M.D. Remarks on the relation of Human and Bovine Tuberculosis. *British Medical Journal*, 22nd Feb., 1902, p. 443.

CHATTAWAY, W., and WARTON, F. M. Note on a convenient apparatus for the chemical and bacteriological examination of the atmosphere. *The Analyst*, August, 1902, p. 243.

CHILDS, CHRISTOPHER, M.D. The difficulties of preventing Enteric Fever in Warfare. *British Medical Journal*, 15th March, 1902, p. 643.

CORFIELD, Prof. W. H., M.D. The Etiology of Typhoid Fever and its Prevention. *The Lancet*, 22nd March, 1902, p. 793; 5th April, p. 942; 12th April, p. 1013; 26th April, p. 1155; 3rd May, p. 1231.

CROMBIE, ALEX., M.D. Some further Statistics regarding the effect of Inoculation against Typhoid Fever in South Africa, with special regard to the question of age. *The Lancet*, 16th Aug., 1902, p. 426.

DORNBLÜTH, Dr. Naturheilkunde und öffentliche Gesundheitspflege. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 324.

The author deals with the so called natural methods of treatment and their influence on the public health.

DRIGALSKI, Dr. v., und CONRADI, Dr. H. Ueber ein Verfahren zum Nachweis von Typhusbacillen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XXXIX., Heft 2, p. 283.

The paper deals with a method for the identification of typhoid bacilli.

EISENBERG, P., und VOLK, R. Untersuchungen über die Agglutination. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL, Heft 1. p. 155.

The paper deals with investigations into agglutination.

ELLIOT, A., M.D., and WASHBOURNE, J. W., M.D. Typhoid Fever in South Africa. *The Lancet*, 18th Jan., 1902, p. 139.

FARRAR, REGINALD, M.D. Plague as a Soil Infection. *British Medical Journal*, August 16th, 1902, p. 454.

FORD, W. W., Dr. Beitrag zur Lehre von den Hämagglutininen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL, Heft 1, p. 363.

The paper is a contribution to our knowledge of hæmagglutinines.

FRAENKEL, E. Ueber Gasphlegmone, Schaumorgane und deren Erreger. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL, Heft 1, p. 73.

FRANK, G., Dr. Ueber einen neuen Bacillus aus der Gruppe des Influenzabacillus. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL, Heft 1, p. 288.

The paper describes a new bacillus belonging to the group of the influenza bacillus.

GIBBES, HENEAGE, M.D. New Diagnostic Point in Typhoid Fever. *British Medical Journal*, March 22nd, 1902, p. 704.

GORDON, MERVYN H., M.B. The Cause of Return Cases of Scarlet Fever. *British Medical Journal*, August 16th, 1902, p. 445.

GRAY, ST. GEORGE, M.D., and LOW, G. C., M.D. Malarial Fever in St. Lucia, W.I. *British Medical Journal*, Jan. 25th, 1902, p. 193.

GRUNBAUM, ALBERT, M.D. Note on Media for distinguishing *B. coli* and *B. typhosus* and related species. *British Medical Journal*, 14th June, 1902, p. 473.

HÜNERMANN. Bakteriologische Befunde bei einer Typhusepidemie. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL, Heft 3, p. 522.

The paper describes the bacteriological finds in an epidemic of typhoid fever.

HUTCHINSON, R., M.D. On Patent Foods. *The Lancet*, 5th July, 1902, p. 1.

KAYSER, Dr. H. Die Einwirkung des Traubenzuckers auf verschiedene Lebensäusserungen des *Staphylococcus pyogenes* (Virulenz, Hämolyisin, u. s. w.). *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 1, p. 21.

The paper deals with the influence of grape sugar on various actions of life of the *staphylococcus pyogenes* (virulence, hæmolyisin &c.).

KIRSTEIN, Dr. F. Die Beschaffenheit der Luft in den Lade- und Formiräumen von Accumulatorenbattereien und ihre hygienische Beurtheilung. *Deutsche Vierteljahrschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 309.

The author examines into the constitution of the air in the rooms where accumulation batteries are loaded, and its sanitary aspect.

KITTSTEINER, Dr. Ueber Pikrinsäure. *Deutsche Vierteljahrschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 320.

The author deals with the influence of picric acid (Trinitrophenol) on the human body, and measures for preventing its use.

KLIMOWITZ. Die Probe-Tuberculininjection zur Abwehr der Tuberculose in der Armee. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 1, p. 141.

The paper deals with trial tuberculin injections for the prevention of tuberculosis in the army.

LOW, GEO. C., M.D. Malaria and Filarial Diseases in Barbadoes. *British Medical Journal*, 14th June, 1902, p. 1472.

MACKENZIE, STEPHEN, M.D. Powers of Natural Resistance, or the Personal Factor in Disease of Microbic Origin. *Lancet*, 31st May, 1902.

Influenza, tuberculosis, rheumatic fever, and perityphlitis are discussed as illustrating the importance of considering the soil as well as the seed in relation to diseases of microbic origin.

MARX, E. Ueber die tetanusgiftneutralisirende Eigenschaft des Gehirns. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 2, p. 231.

The paper deals with that property of the brain which neutralizes the tetanus poison.

MERCIER, C., M.B. Theories of Inheritance. *British Medical Journal*, 4th Jan., 1902, p. 15.

MILLARD, C. KILLICK, M.D. The etiology of return cases of Scarlet Fever. *British Medical Journal*, 16th August, 1902, p. 441.

MOORE, A., M.D. The Isolation of the Typhoid Bacillus. *British Medical Journal*, 22nd March, 1902, p. 703.

MUSEHOLD, Dr. P. Zur Bekämpfung des Typhus. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 4, p. 579.

The paper deals with the prevention of typhoid fever.

NEUFELD, Dr. F. Ueber die Agglutination der Pneumokokken und über die Theorien der Agglutination. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 1, p. 54.

The paper deals with agglutination of pneumococci, and with the various theories of agglutination.

NEUMANN, Dr. R. O. Bacteriologische Untersuchungen gesunder und kranker Nasen mit besonderer Berücksichtigung des Pseudodiphtheriebacillus. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 1, p. 33.

The paper deals with bacteriological investigations on healthy and diseased noses with special regard to the pseudo-diphtheria bacillus.

NEVE, F., M.D. The Spread of Leprosy, and an Examination of the Fish Hypothesis of Leprosy as applied to Kashmir. *British Medical Journal*, May 3rd, 1902, p. 1080.

PAUL, L. Ueber die Bedingungen des Eindringens der Bakterien der Inspirationsluft in die Lungen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 3, p. 373.

The paper deals with the conditions under which the bacteria of the air we breathe enter into the lungs.

PETRUSCHKY, —. Versuche zur specifischen Behandlung des Typhus abdominalis. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 3, p. 595.

The paper deals with experiments for the specific treatment of typhoid fever.

PFEIFFER, Dr. A., and others. Achtzehnter Jahresbericht über Fortschritte und Leistungen auf dem Gebiete der Hygiene. Jahrgang, 1900. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIII., Supplement.

This is a most interesting record on 674 pages of the progress of hygiene in all its branches during 1900. It is the most complete summary in existence.

PFUHL, Dr. E. Vergleichende Untersuchungen über die Haltbarkeit der Ruhrbacillen und der Typhusbacillen ausserhalb des menschlichen Körpers. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 3, p. 555.

The author describes his comparative investigations into the

length of life of the diarrhoea bacilli, and the typhoid bacilli outside the human body.

PRÖLLS, Dr. Das Verhalten einer Diphtherieepidemie in einem Genossenschaftsmolkereibezirke. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 3, p. 446.

The author describes a small outbreak of diphtheria in a district supplied by a large dairy.

RANSOM, W. B., M.D. Should Milk be Boiled? *British Medical Journal*, February 22nd, 1902, p. 440.

RICHMOND, H. DROOP. The Composition of Milk. *The Analyst*, August, 1902, p. 240.

Gives the average composition of milk (32,635 samples) analysed during 1901—with notes on the accuracy of methods used, and on the composition of human milk.

RIDEAL, S. The Examination of Water from some Typhoid-polluted Wells. *The Analyst*, August, 1902, p. 245.

Gives results of the chemical and biological examinations of two samples of water, with notes thereon.

ROBERTSON, ALEX., M.D. General Hospitals and Pulmonary Consumption. *British Medical Journal*, Feb. 22nd, 1902, p. 445.

RODELLA, Dr. A. Ueber anaerobe Bakterien im normalen Säuglingsstuhl. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XXXIX., Heft. 2, p. 201.

The author deals with anaerobic bacteria in normal dejecta of sucklings.

SNEL, Dr. J. J. Der Untergang von Milzbrandbacillen in der normalen Lunge. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 1, p. 103.

The paper deals with the disappearance of anthrax bacilli in healthy lungs.

SPAET, Dr. F. Beobachtungen über Wohnungsklima. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 4, p. 631.

The author deals with what he calls the artificial climate in our houses.

TAVEL, Dr.; KRUNBEIN, Dr.; GLÜCKSMANN, Dr. Ueber Pestschutzmassregeln. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 2, p. 239.

The paper deals with protective measures against the bubonic plague.

THRESH, J. C., M.D. The Hospital Ships and the Dissemination of Small-pox. *The Lancet*, Feb. 22nd, 1902, p. 495.

TJADEN, Dr. Rinder und Menschentuberculose. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 3, p. 366.

The author deals with bovine and human tuberculosis.

VOGES, O. Die Bubonenpest am La Plata. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XXXIX., Heft 2, p. 301.

The paper describes the bubonic plague on the La Plata.

WIRGIN, G. Zur Wirkung des Aethylalkohols auf Mikroorganismen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 1, p. 307.

The paper describes the effect of Aethylalcohol on micro-organisms.

WULFFERT, Dr. Alkohol und Tropen - Acclimatisation. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 3, p. 393.

The author investigates the interesting question why the consumption of alcohol in various drinks prevents the acclimatisation of the white race in tropical countries.

YOOS, Dr. A., Untersuchungen über den Mechanismus der Agglutination. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 2, p. 103.

The author describes his investigations into the mechanism of agglutination.

The use of Boric Acid and its Salts as Food Preservatives. *The Analyst*, Sept. 1902, p. 271.

A series of articles freely translated from abstracts appearing in the *Zeit. für Untersuch. der Nahr. und Genussmittel*, 1902, v. 678.

Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

AMBLER, LOUIS, F.R.I.B.A. Artizans' Dwellings from the private point of view. *The Building News*, 16th May, 1902, p. 694.

The question of site—how best to utilize a restricted site—cost of erection—rental—details of construction.

BELL, ARTHUR L. Hospitals. *The Surveyor* (Supplement), 30th May, 1902.

Notes as to the growth of hospital accommodation—plan—site—aspect—infectious diseases hospitals—overcrowding—cleansing and ventilation.

BLYTH, B. H. Sickness due to compressed air. *Engineering*, 8th August, 1902, p. 186.

Depth to which shafts should be sunk—limits of pressure compatible with safety—comparisons of working in different strata—amount of carbonic acid in the air admitted, &c.

BORETIUS, Dr. Das Abdeckereiwesen und seine Regelung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 3, p. 475.

The paper deals with the sanitary disposal of the bodies of dead animals and meat condemned as unfit for eating.

FELDMANN, Dr. G. Ueber die Anforderungen, welche vom gesundheitlichen Standpunkt aus an ein öffentliches Schlachthaus zu stellen sind. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 3, p. 454.

The paper deals with the sanitary requirements of public slaughterhouses.

FLEMING, OWEN, A.R.I.B.A. Municipal Housing. *The Building News*, 16th May, 1902, p. 693.

Its economic basis—The Housing Act of 1890—and its working.

GENZMER, E., und WEYL, Dr. TH. Strassenbefestigungsmaterialien und Ausführungsarten sowie ihr Einfluss auf die Gesundheit. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 1, p. 135.

This paper deals with the materials for making streets, the construction of streets, and the influence of streets on health.

HARDING, HERBERT W. Description of proposed extensions at the Infectious Diseases Hospital of the Corporation of Bristol. *The Surveyor*, 1st Aug., 1902, p. 140.

Double-decker pavilion—observation pavilion—discharging block—water storage.

LEHMANN, Prof. Dr. K. B. Die Bedeutung der hygienisch wichtigen Metalle (Aluminium, Blei, Kupfer, Nickel, Zinn, und Zink) im Haushalte und in den Nahrungsgewerben. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 1, p. 119.

The paper deals with the importance in our households and in the manufacture of food stuffs of such metals as aluminium, lead, copper, nickel, tin and zinc.

LOEFFLER, Prof. Dr. Hygiene der Molkereiprodukte. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 1, p. 54.

This paper by Prof. Loeffler, a well-known authority on sanitary

matters, is an interesting contribution to the sanitary treatment of dairy products, how they are to be tested and maintained in a pure condition.

MERKEL, Dr. S. Zur Hygiene im Schneidergewerbe. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 4, p. 597.

The paper deals with sanitary measures to be adopted in tailoring industries.

WAGENER, Dr. O. Ueber Gesundheitsschädigungen in Accumulatorenfabriken und gesundheitspolizeiliche Massregeln dagegen. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 41, p. 529.

The paper deals with injuries to health in accumulator works and how they are to be prevented.

YOUNG, MEREDITH, M.D. The further control of Common Lodging-houses. *British Medical Journal*, 16th Aug., 1902, p. 457.

Building Materials, Construction, and Machinery.

HOFMOKL, Dr. E. Die österreichischen Bauordnungen in hygienischer Beziehung. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 4, p. 615.

The author deals with the Austrian building regulations from a sanitary point of view.

Water Supply, Sewerage, and Refuse Disposal.

CLOWES, Prof. Frank. The action of distilled water upon lead. *Building News*, 19 Sep., 1902, p. 389.

Results of investigations—suggestions for reducing the action of distilled water on lead—no bacterial action.

DAVIS, Joseph, M.Inst.C.E. The sewage systems of Sydney, N.S.W. and its suburbs. *Proceedings of the Institution of Civil Engineers*, Vol. CXLVIII.

DIXON, J. Rush, A.M.I.C.E. Underground conveniences. *The Surveyor*, 18th July, 1902, p. 76-7.

Necessity for conveniences—site and arrangement—constructional notes—closets—urinals—drainage—lighting and ventilation—administration.

"ENGINEER," EDITOR OF. New Waterworks for Loughborough (illustrated). 11th July, 1902.

FREUND, Dr., und UHLFELDER, H. Versuche mit Nachbehandlung der Frankfurter Abwässer in Oxydationsfiltern. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 234.

The authors describe the results obtained by the artificial treatment of the Frankfurt sewage in contact beds. The sewage, after settlement in depositing tanks (without the aid of chemicals), was treated in contact beds, but as a result of their experiments the authors concluded, that this method was hardly likely to be employed for the whole sewage of the town.

HUMPHREYS, W. H., Waterworks Engineer, York. (British Association of Waterworks Engineers Annual Meeting at Leicester.) Electrolysis in Water Pipes. *The Engineer*, Aug. 1st, 1902.

JONES, H. OSCAR, Stud.Inst.C.E. Newent Water Works, Gloucester. *The Surveyor*, July 11th, 1902, pp. 32.

Population—sources of supply—geological strata—description of works—surface reservoirs—engines and pumps—mains—analysis of water.

MASON, C. G., Assoc.M.Inst.C.E., (British Association of Waterworks Engineers Annual Meeting at Leicester.) Turbine-pumping plant at the Corporation Waterworks, Guildford. *The Engineer*, Aug. 1st, 1901.

NAYLOR, WILLIAM, Assoc. M. Inst. C.E. The Bacterial Treatment of Trades Waste. *Proceedings of the Institution of Civil Engineers*, Vol. CXLVIII.

PARRY, WILLIAM KAYE, M.A., B.A.I., M.Inst.C.E., and ADENEY, WALTER ERNEST, D.Sc. The Discharge of Sewage into a Tidal Estuary. *Proceedings of the Institute of Civil Engineers*, Vol. CXLVII.

PRIESTLEY, JOSEPH, B.A., M.D., D.P.H. (British Association of Waterworks Engineers Annual Meeting at Leicester.) Domestic Filtration. *The Engineer*, Aug. 1, 1902.

RIDEAL, SAMUEL, D.Sc. Sewage Treatment. *The Surveyor*, Aug. 15th, 1902, p. 219.

Report of Royal Commission of 1898—suitable land—pure effluents—protection of rivers—variable character of sewage—contact beds—tanks—importance of effluent analyses.

SAINTY, CHRISTOPHER, M.I.Mech.E. Turbine-driven pumps at the Windsor Corporation Waterworks. (British Asso-

ciation of Waterworks Engineers Annual Meeting at Leicester.) *The Engineer*, Aug. 1st, 1902.

SCHUDER und PROSKAUER. Versuche mit dem fahrbaren Trinkwasserbereiter von Rietschel und Henneberg. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 3, p. 627.

The paper deals with experiments made with the portable instrument of Messrs. Rietschel and Henneberg for the preparation of potable water.

SCHUMANN. Die Verunreinigung der öffentlichen Gewässer zu Berlin. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 226.

The author deals in an interesting manner with the pollution of rivers in the vicinity of Berlin.

THOMAS, WALTER W. People's Baths. *The Surveyor*, May 23rd, 1902, p. 604.

Definition of "People's Baths"—necessity for public baths—history and development of baths—shower and spray baths—baths at Norwich, Cheltenham, Bristol, and Liverpool—planning of baths—materials—economy of shower and spray baths.

WALKER, ALEX. T., Corporation Waterworks Manager. (British Association of Waterworks Engineers Annual Meeting at Leicester.) Water power pumping plant at the Reading Waterworks. *The Engineer*, Aug. 1st, 1902.

WATSON, F. LESLIE. Recent practice in refuse disposal and utilization plants. *The Surveyor*, Sept. 5th, 1902, p. 300.

Principles to be aimed at in construction—refuse destructors—utilization of clinkers—electric light installations—destructor and combined sewage plant.

Heating, Lighting, and Ventilating.

OSLENDER. Fortschritte auf dem Gebiete centraler Heizungs und Lüftungsanlagen für Wohnhäuser und öffentliche Gebäude im letzten Jahrzehnt. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 1, p. 89.

The paper deals with the progress made during the last decade in the heating and ventilation of dwelling houses and public buildings from central sources.

Personal Domestic Hygiene.

SCHENK, Dr. P. Die Beschäftigung von Kindern unter 14 Jahren im Kleingewerbe und in der Hausindustrie vom

gesundheitlichen und sittlichem Standpunkte betrachtet. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 185.

The paper deals with the employment of children under 14 years in small industrial establishments and in workshops from a sanitary and moral point of view.

SZANA, Dr. A. Ueber die Beaufsichtigung der in entgeltliche Aussenpflege gegebenen Kinder, mit besonderer Berücksichtigung eines in Temesvar angewandten neuen Systems. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 205.

The paper deals with the system of boarding out children for payment, and describes more in detail a new method adopted at Temesvar in Hungary.

NODER, Dr. A. Wodurch unterscheiden sich die Gesundheitsverhältnisse in Grossstädten von denen auf dem Lande? *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 2, p. 251.

The author examines the causes of difference of the sanitary conditions in town and country.

RITTER, Dr., und NEVERMANN. Hygienische Verhältnisse auf dem platten Lande nach im Regierungsbezirke Stade gemachten Beobachtungen. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 3, p. 414.

The paper deals with the sanitary conditions prevailing in country districts.

SCHNEIDER, Dr. P. Die Frau als Krankenpflegerin. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 4, p. 649.

The paper deals with women as sick-nurses.

PROSKAUER, Prof., und CONRADI, Dr. Ein Beitrag zur Desinfection von Thierhaaren mittels Wasserdampfes. *Zeitschrift für Hygiene und Infectionskrankheiten*. Vol. XL., Heft 1, p. 134.

The paper deals with the disinfection of animal hair by steam.

MEETINGS HELD.

MEETINGS HELD JULY TO SEPTEMBER, 1902.

EXAMINATIONS.

From July to October the following Examinations were held:—

PRACTICAL SANITARY SCIENCE.

July 25th and 26th, Cardiff. 1 Candidate, 1 Certificate.

INSPECTORS OF NUISANCES.

July 25th and 26th, Cardiff. 83 Candidates, 41 Certificates.

CANDIDATES WHO HAVE RECEIVED CERTIFICATES,
JULY—OCTOBER, 1902.

Practical Sanitary Science.

1902, July 26. LISTER, REGINALD WILLIAM.

Inspectors of Nuisances.

1902, July 26. ABSON, THOMAS REED.
1902, July 26. ASHMAN, JOSEPH.
1902, July 26. BELL, THOMAS GEORGE HARTLEY.
1902, July 26. CLARKE, ERNEST CHARLES.
1902, July 26. COOMBE, MAURICE.
1902, July 26. DAVIES, DAVID BENJAMIN.
1902, July 26. DAVIES, GEORGE.
1902, July 26. DAVIES, JOHN.
1902, July 26. DAVIES, PHILIP ISAAC.
1902, July 26. DAVIES, THOMAS (Neath).
1902, July 26. DAVIES, THOMAS (Ynysybwl).
1902, July 26. DUNN, ROLLINGS.
1902, July 26. EDWARDS, JOHN THOMAS.
1902, July 26. EDWARDS, SAMUEL VINCENT.
1902, July 26. L GEORGE, FLORENCE.
1902, July 26. HOBSON, CLEMENT EDWARD.
1902, July 26. HOPKINS, DAVID.
1902, July 26. HUNT, WILFRED JOHN LACY.
1902, July 26. HURST, JAMES.
1902, July 26. L JONES, ELIZABETH GERTRUDE.
1902, July 26. JONES, JOHN.
1902, July 26. JONES, THOMAS.
1902, July 26. JONES, WILLIAM BRITTON.
1902, July 26. LLEWELLYN, WILLIAM.
1902, July 26. MACDONALD, JOHN.
1902, July 26. MCGREGOR, GREGOR MALCOLM.

1902, July 26.	MORGAN, JOHN JAMES.
1902, July 26.	MORGAN, WILLIAM.
1902, July 26.	MOUNTJOY, FRANK ERNEST.
1902, July 26.	PIKE, PERCIVAL WILLIAM.
1902, July 26.	POWELL, GUY MATSON EVERITTE.
1902, July 26.	PUGH, SAMUEL ALLEN.
1902, July 26.	ROSSER, ALBERT EDWARD.
1902, July 26.	ROSSER, EVAN.
1902, July 26.	ROUCH, CHARLES FREDERICK.
1902, July 26.	SANDERS, THOMAS STANLEY.
1902, July 26.	THOMAS, FREDERICK BARTLE.
1902, July 26.	WAITHMAN, CHARLES HAROLD.
1902, July 26.	WHITCOMBE, WILLIAM HENBY.
1902, July 26.	WILLIAMS, DANIEL.
1902, July 26.	WILLIAMS, JOHN.

Examination Questions.

Practical Sanitary Science.—Cardiff, July 25th and 26th, 1902.

1. What are the component parts of—

(a) Pure atmospheric air? (b) Pure water?

What are the usual sources of contamination of air and water in dwelling-houses?

What is the natural law as to the diffusion of gasses?

2. Explain the construction of a Standard Mercurial Barometer, the method of reading it, and how corrections of the readings are made. If a barometer, on being taken 900ft. up a hill, falls from 31in. to 30in., show by calculation how much higher it must be taken to fall to 29in., the temperature being uniform throughout the observations.

3. What are the chief circumstances that influence rainfall in different parts of England? State in detail how to obtain accurate gaugings of rain and snow fall.

4. Explain how the healthiness of a dwelling is affected by—

(a) Aspect;

(b) Position in relation to the sea level;

(c) Surrounding objects.

5. How many gallons of water per minute will be discharged by a pipe 12 inches diameter, running full and having a gradient of 1 in 1,000?

6. In clearing an insanitary area sketch a block plan of small houses for workmen's dwellings in a bye street, showing the air space surrounding the buildings.

7. Sketch an arrangement of drains for a country mansion, with stables, offices, &c. Show the connections to a cesspool, and describe the way to dispose of the sewage collected therein.

8. Explain the action of bacteria with reference to filtration of potable waters, and the purification of sewage.

The Candidates were examined vivâ voce on the 26th.

Inspector of Nuisances.—Cardiff, July 25th and 26th, 1902.

1. Enumerate the points you would insist upon in drawing up a new set of regulations for Milk Shops under the Cowsheds, Dairies and Milk Shops Orders.

2. Define a narrow and a broad canal boat, with its requirements as to (1) air space, furniture, etc., in cabins; (2) water; (3) Certificate of Registration.

3. What is meant by "refrigerated" or chilled beef? Contrast its appearance with that of frozen or "home killed."

4. A case of enteric (typhoid) fever is being treated in a dwelling-house. What are the special precautions to be adopted in regard to disinfection during the illness and after the illness?

5. A house is dependent upon a well for its water supply, the purity of which is doubted. What are the several points to which you would direct your attention in making an inquiry?

6. State the contents of a bell tent 16 feet diameter and 12 feet high from floor to apex; vertical sides 2 feet high.

7. Sketch and give particulars of a privy ashpit such as you would permit where water-closets are not available.

8. Describe the construction of a disconnecting manhole chamber on a 6-inch house drain, the drain being 10 feet below the surface of the ground; give a sketch plan, a longitudinal section, and a cross section.

The Candidates were examined vivâ voce on the 26th.

CONGRESS AND EXHIBITION AT MANCHESTER.

The Nineteenth Congress and Exhibition of the Institute was held at Manchester from September 9th to 13th, 1902.

Very suitable accommodation was provided for the meetings of the Congress in the Owens College and at the Municipal School of Technology, and excellent arrangements were made for the reception and convenience of members. The Exhibition was held at St. James's Hall, well known for Exhibitions and Meetings of this kind.

The Congress was received by the Right Honourable the Lord Mayor (Alderman James Hoy, LL.D.), and his speech of welcome was responded to by Mr. A. Wynter Blyth, Chairman of Council.

A Public Luncheon was held in the Grand Hotel, at which

the Right Honourable the Lord Mayor presided, and the following toasts were proposed:—

The King, by the Chairman.

The Sanitary Institute, by the Chairman. Responded to by Mr. A. Wynter Blyth.

The Corporation, by Dr. G. V. Poore. Responded to by the Lord Mayor.

The Right Honourable the Lord Mayor formally opened the Exhibition, and Sir Frank Forbes Adam, Sir William Bailey, and other prominent men were present.

The first General Meeting was held on September 9th. The Right Hon. the Earl Egerton of Tatton was installed as President of the Congress by Mr. A. Wynter Blyth, Chairman of Council, and delivered his Inaugural Address.

The business of the Congress was divided into three Sections and eight special Conferences. Particulars of these are given in the programme of the Congress in the Supplement to Part II. of the Journal. During the Congress 88 addresses, lectures, and papers were read, in 18 meetings. The Presidents' Addresses are published in the present number of the Journal. The papers read in the Sectional Meetings, with the discussions upon them, will be published in Part IV. of the present volume, and an abstract of the proceedings of the Conferences will be given in Part I. of Vol. XXIV.

During the meeting excursions were made to Tatton Park, Knutsford, Peel Park, Salford; The United Alkali Co's Works, Widnes; Chatsworth and Haddon Hall; Engineering Works of Lancashire and Yorkshire Railway, Horwich, Fireclay Works of Messrs. Mason, Horwich; The Water Supply Works of Liverpool, Rivington; the Municipal Works at Buxton, the Natural and Hot Mineral Baths at Buxton, the Buxton Gardens; Port Sunlight, Cheshire; the Waterworks Undertaking of the Manchester Corporation at Thirlmere; at which places the members were most hospitably entertained by the Rt. Hon. the Earl Egerton of Tatton and Her Grace the Duchess of Buckingham and Chandos; the Worshipful the Mayor of Salford; the United Alkali Co.; the Lancashire & Yorkshire Railway Co.; Messrs. Mason; the Liverpool Corporation; the Chairman and Members of the Buxton Urban District Council; Mr. F. Drewry; the Buxton Gardens Co.; Messrs. Lever Bros.; the Manchester Corporation.

Circular tours were also made to the Municipal undertakings of the Manchester and Salford Corporations, and Cycle Excursions were arranged.

The numbers attending the Congress were as follows:—Delegates, 759; Members and Associates of the Institute, 750;

Associates of the Congress, and other Subscribers, 650; Meeting of Childhood Society, 100; making a total of 2,259. ^M

Delegates were appointed by about 400 Sanitary Authorities and learned Institutions.

REPORT OF CLOSING MEETING.

The closing meeting of the Congress was held on Friday, September 12th, Sir James Crichton-Browne, LL.D., M.D., F.R.S., in the Chair.

Reports of the work done in the different Sections and Conferences of the Congress, and the Resolutions passed, were read by the respective Secretaries, and the Resolutions were referred to the Council of the Institute for consideration.

Proposed by E. G. Mawbey, M.Inst.C.E., seconded by Henry R. Kenwood, M.B., C.M., L.R.C.P., D.P.H. :—

RESOLVED—"That The Sanitary Institute and members of the Congress desire to express their most sincere thanks to the Right Hon. The Lord Mayor and Lady Mayoress and the Corporation of the City of Manchester, for the cordial manner in which the Congress has been received, and for the personal kindness and hospitality extended to the members.

Proposed by J. Osborne Smith, F.R.I.B.A., seconded by Bushell Annington, M.A., M.D. :—

RESOLVED—"That the hearty thanks of The Sanitary Institute and the Congress be presented to the Principal and Senate of Owens College, and the Committee and Principal of the Municipal School of Technology, for their courtesy in placing at the disposal of the Congress handsome and suitable buildings for the various meetings."

Proposed by J. F. J. Sykes, D.Sc., M.D., seconded by Surgeon-Major W. G. Black, F.R.C.S.E., M.R.C.S. :—

RESOLVED—"That the hearty thanks of the members of the Congress be given to His Grace the Duke of Devonshire; His Grace the Duke of Rutland; The Mayor and Corporation of Salford; the several Committees of the Manchester Corporation and of the Salford Corporation; the Liverpool Corporation; the Buxton Urban District Council; the Clerk of the Northwich District Council; the Committees of the several Clubs; the British Westinghouse Electric Co.; the Buxton Gardens Co.; F. Drewry; the Dynamic Gas Co.'s Works; Messrs. Jewsbury and Brown; the General Manager of the Lancashire and Yorkshire Railway Co.; Messrs. Lever Bros.; Messrs. Mather & Platt; Messrs. W. E. Mason; United Alkali Co.; and others, for having so kindly shown hospitality at private receptions, by privileges accorded to members, and at the various

excursions, which have added so greatly to the pleasure and enjoyment of the meeting."

Proposed by J. E. Worth, M.Inst., C.E., seconded by the Secretary of the Institute:—

RESOLVED—"That the earnest thanks of the Congress are due to the Local General Committee, the various Sub-Committees, and the Local Secretaries, for their arduous labours in their several departments, and for their unremitting exertions in carrying out the many details in the organisation of the Congress, which have culminated in such a successful meeting."

Proposed by Philip Boobyer, M.D., M.S., M.R.C.S., seconded by Alderman Hoyle:—

RESOLVED—"That the thanks of this meeting are due to the members of the Press for the reports which have been published of the proceedings, and which are largely instrumental in the dissemination of the teachings of the Congress."

Proposed by the Chairman, seconded by W. Butler, M.B., C.M., D.P.H.:—

RESOLVED—"That the cordial thanks of the Congress be hereby presented to the President, The Right Hon. The Earl Egerton of Tatton, for presiding over the Congress, and for the courteous reception given by his Lordship and Her Grace the Duchess of Buckingham and Chandos to the members at Tatton Park."

The following resolutions were passed at the Sectional Meetings and Conference held during the Congress, and were referred to the Council of the Institute for consideration.

The action which the Council have taken with regard to the resolutions, or in order to deal with the subject raised, is noted after each resolution.

RECOMMENDATIONS MADE IN SECTION I.—

"That means be taken, if possible, by which a careful and complete study may be made of the original full report of the commission appointed to enquire into the origin and spread of typhoid fever in the United States Military Camps during the Spanish War of 1898 (this report having been deposited for reference in the Library of the Surgeon General's Office at Washington)."

"That means be taken to ascertain what measures the War Office are taking to institute a complete system of Sanitary organisation in the Army."

These resolutions have been referred to the Special Purposes Committee to consider and report upon.

"That the File Cutting trade should be scheduled by the Home Secretary under Section 82, Part 2, of 1901 Act as a 'dangerous trade'."

Decided to communicate this resolution to the Home Secretary.

File cutting by hand has since the passing of this resolution been certified by the Home Secretary to be a dangerous process, and is so certified in pursuance of Section 79 of the Factory and Workshops Act, 1901.

"That having regard to the widespread evil effects of under feeding, and its disastrous results on the health and physical efficiency of the nation, this Congress is of opinion that strenuous endeavour should be made by all public bodies to increase the knowledge of the public, and especially the poor, on all matters relating to the subject of food."

It did not appear to the Council desirable to take any action with regard to this resolution.

RECOMMENDATIONS MADE AT A JOINT MEETING OF SECTIONS I. AND II.—

"That it is the opinion of this Section that in the interests of the public health the laying down of all edible forms of shell fish in sewage-polluted creeks or other dangerous localities should be prohibited by law under heavy penalties."

"That all unpolluted layings, fattening beds, and storage ponds at present in use should be protected by law from pollution by sewage by any person or Sanitary Authority."

These resolutions have been referred to the Special Purposes Committee to consider and report upon.

"That this Congress request The Sanitary Institute to prepare and issue, in a condensed form, a summary of the present knowledge on the Treatment of Tuberculosis, as obtained at the recent International Congress and elsewhere, and that the Committee of the King's Sanatoria be invited to join in the publication."

Decided to review the transactions of the British Congress on Tuberculosis in the Journal of the Institute.

RECOMMENDATIONS MADE IN THE CONFERENCE OF MUNICIPAL REPRESENTATIVES—

"That in the opinion of this Conference the time has arrived for the consolidation and revision of the existing Public Health Acts, and that the Local Government Board should be urged to give the subject their serious consideration with

the view of bringing it as soon as conveniently possible before the notice of Parliament."

Decided that this resolution be referred to the Parliamentary Committee to consider and report upon.

"That in the opinion of this Conference the period for the repayment of Loans under the Housing of the Working Classes Acts should be extended to 100 years for land and eighty years for buildings, and that the Local Government Board should be empowered to authorise Loans at a low rate of interest."

It did not appear to the Council desirable to take any action with regard to this resolution.

"That in all County Council Districts the reports of Medical Officers of Health which are not printed and distributed by their own authorities should be printed and circulated by the County Councils."

Decided that this resolution be referred to the Special Purposes Committee to consider and report upon.

RESOLUTIONS PASSED IN THE CONFERENCE OF VETERINARY INSPECTORS—

"That this Meeting desires the Council of the Sanitary Institute to express its opinion that justice and expediency require that compensation should be paid to owners for carcases seized on account of tuberculosis, when the animals show no disease during life."

"That this Conference hopes greater care will be devoted by authorities (central and local) to those diseases of animals which, by transmission to man cause suffering or death—as anthrax, rabies or glanders.

Decided that these resolutions be referred to the Special Purposes Committee to consider and report upon.

RECOMMENDATIONS MADE IN THE CONFERENCE OF SANITARY INSPECTORS—

"This Conference is of opinion that the time has arrived when no person should without permission of the Local Authority open up, alter, add to, or otherwise deal with the drainage or sanitary appliances of any house, building, or premises. That all drains and sanitary appliances be constructed and required to stand the hydraulic or other equally satisfactory test to be applied by the inspector of the sanitary authority before such work be covered from view or passed."

It did not appear to the Council desirable to take any action with regard to this resolution.

"That this Conference of Sanitary Inspectors is of opinion that all waste pipes ought to be trapped as close to each fitting as possible, and that the Local Government Board be requested to add it to their Model By-Laws."

It did not appear to the Council desirable to take any action with regard to this resolution.

"That this Congress, being satisfied that the law as to Public Health is in an unsatisfactory state, not up to the level of present sanitary knowledge, fragmentary, and not entirely consistent in its several parts, and that such a condition of sanitary law tends to impede advancement in sanitary improvement, recommend that The Sanitary Institute ask the Local Government Board to consider the matter, and take such steps as they may deem necessary to bring about reconstruction and consolidation of the existing law dealing with Public Health."

Decided that this resolution be referred to the Parliamentary Committee to consider and report upon.

RECOMMENDATIONS MADE IN THE CONFERENCE OF LADIES ON HYGIENE—

"That this Conference of Women interested in Education in Hygiene strongly urges the necessity of a reliable Textbook on Elementary Hygiene being published, the existing textbooks being not only contradictory, but in some parts lamentably incorrect."

Decided that this resolution be referred to the Congress Referee Editing Committee to consider and report upon.

"That in the opinion of this meeting it is extremely desirable that children in schools should be instructed in simple hygiene, and especially in matters relating to personal cleanliness and the feeding and management of infants, and that a copy of this resolution be forwarded to the School Board."

Decided that this resolution be referred to the Museum Library and Education Committee to consider and report upon.

AWARDS MADE AT THE EXHIBITION.

SILVER MEDAL.

- BRITISH SANITARY Co., 107, Bothwell Street, Glasgow.
Self-acting Earth Closet.
- CADBURY BROS., LTD., Bournville, near Birmingham.
Cocoa Preparations.
- CANNON IRON FOUNDRIES, LTD., Deepfields, near Bilston, Staffs.
Enamelled Cast Iron.
- F. C. CALVERT & Co., Bradford, Manchester.
Carbolic Acid Preparations.
- CHALMERS & Co., Steam Carriage Works, Redhill.
Van Ambulances.
- DAVIS GAS STOVE Co., LTD., 196-206, Camberwell Rd., London, S.E.
Metropolitan Cooker.
- J. DEFRIES & SONS, LTD., 147, Houndsditch, London, E.
Saturated Steam Disinfecter.
- WILLIAM M. GLOVER & SONS., LTD., Eagle Works, Warwick.
Dust Van.
- HORSFALL DESTRUCTOR Co., 5, Greek Street, Leeds.
Horsfall Destructor.
- JOHN JONES, Carlyle Works, Chelsea, London, S.W.
Automatic Air-tight Manhole Cover.
- MATHER & PLATT, LTD., Salford Iron Works, Manchester.
Water Softening Apparatus.
- VERNON PARKER, 20, Victoria Street, Westminster, London, S.W.
Hassall's Improved Safety Pipe Joint.
- SHANKS & Co., LTD., Tubal Works, Barrhead, Glasgow.
Cast Iron Porcelain-Enamelled Bath with quick Accessible Waste.
- W. SUMMERSCALES & SON, LTD., Phoenix Foundry, Keighley.
Laundry Machinery.

BRONZE MEDAL.

- AMES CROSTA SANITARY ENGINEERING Co., LTD., City Chambers, Nottingham.
Crosta's Surface Water Gully, with complete Double Trap.
Stoneware Conduits for Electric Cables.
- BUEN BROS., 23-4, Charing Cross, Whitehall, London, S.W.
Improved Ball Stoppers.
- CHALMERS & Co., Steam Carriage Works, Redhill.
Two-wheel Dust Cart.
- GEO. A. CHADDOCK, 28, African House, Liverpool.
Reversible Locking Window.
- DAVIS GAS STOVE Co., LTD., 196-206, Camberwell Rd., London, S.E.
Cottage Griller.

DIDELON & Co., 3, Rue Laugier, Paris, and 10, Newman Street, Oxford Street, London, W.

Automatic Discharge Regulator for Sand Filters for Water Purification.

DOULTON & Co., LTD., Lambeth, London, S.W.

Spray Lavatory with Self-regulating Valve.

J. DUCKETT & SONS, LTD., Burnley.

Flushing Tank and Tipper.

Isolated Syphonic Latrines.

..... & Co.,

Eagle Fire Grate with Sliding Doors.

EWART & SON, LTD., 346-8 and 350, Euston Road, London, N.W.

Improved Geyser Apparatus with Flue and Dual Valve.

WILLIAM E. FARRER, 36, Cannon Street, Birmingham.

Adjustable Bracket.

Bead Rim Lavatory Basin.

Lattice Gear Quick Opening Valve.

FIREPROOF PLATE WALL Co., LTD., 3, MacDonald's Lane, Corporation Street, Manchester.

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LOUIS C. PARKES,

E. WHITE WALLIS,

Chairman of Judges.

Secretary.

FORTHCOMING MEETINGS.

CALENDAR, OCTOBER, 1902, TO JANUARY, 1903.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Exhibition Committee	} Monday in the week preceding the Council, at 4.30 p.m. & 5.30 p.m.
Congress and Editing Committee	
Museum and Library Committee	Tuesday in the week preceding the Council, at 5 p.m.
Special Purposes Committee	} Wednesday in the week preceding the Council, at 4 p.m. and 5 p.m.
Finance Committee	
Examination Committee	Fourth Thursday in January, April, October, 5 p.m.

Parliamentary Committee	} As occasion requires.
Meat Inspectors Examination Committee	

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.

OCTOBER.

- 1 W. Lecture to Sanitary Officers at 7 p.m. The Atmosphere; Pressure and Composition; Air; Combustion and Respiration, by E. J. Steegmann, M.B., D.P.H.
- 3 F. Lecture to Sanitary Officers at 7 p.m. Meteorology, by E. J. Steegmann, M.B., D.P.H.
- 3 F. Demonstration—Meat Inspectors' Course.
- 4 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.
- 4 S. Inspection and Demonstration at Wimbledon Sewage Works, at 2.30 p.m., conducted by C. H. Cooper, M.INST.C.E., Engineer and Surveyor to District Council.
- 7 T. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, A: Introductory Remarks. Public Health Acts—English, Scotch, Irish; other Statutes relating to Public Health; By-Laws (Model, &c.), Regulations, Orders, Memoranda, &c., by J. Priestley, B.A., M.D., D.P.H.
- 8 W. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, B: Public Health (London) Act; Metropolis Local Management Acts; By-Laws and Regulations in Force in the Administrative County of London, by J. Priestley, B.A., M.D., D.P.H.
- 8 W. Inspection and Demonstration at Lambeth Disinfecting Station, Wanless Road, Loughborough Junction, at 2.30 p.m.
- 10 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, C: Factory and Workshop Acts (including Bakehouse Legislation, 1878-1895), as they affect the Sanitary Inspector: Smoke Legislation. Food and Drugs Act, 1899, by J. Priestley, B.A., M.D., D.P.H.
- 11 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.
- 11 S. Inspection and Demonstration at Aylesbury Dairy Co.'s Premises, at 3 p.m.
- 11 S. Demonstration—Meat Inspectors' Course.

- 13 M. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, A: Outdoor, by J. Priestley, B.A., M.D., D.P.H.
- 15 W. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, B: Indoor, by J. Priestley, B.A., M.D., D.P.H.
- 15 W. Inspection and Demonstration in the District of St. Marylebone, at 3 p.m. (number limited), conducted by T. Gorniot, Sanitary Inspector.
- 17 F. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—C: Offensive Trades and Trade Nuisances, &c., by J. Priestley, B.A., M.D., D.P.H.
- 17 F. Demonstration—Meat Inspectors' Course.
- 18 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.
- 18 S. Inspection and Demonstration of Disinfecting Apparatus and Model Steam Laundry, at St. John's Wharf, Fulham, at 2.30 p.m., conducted by W. G. Lacy.
- 20 M. Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 21 T. Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
- 21 T. Inspection and Demonstration at John Knight & Sons' Soap Works, Silvertown, at 3 p.m.
- 24 F. Lecture to Sanitary Officers at 7 p.m. Water; Composition, Pollution, and Purification, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 25 S. Lecture to School Teachers at Bedford College, at 10 a.m. Education, by Miss H. Robertson, B.A.
- 25 S. **Public Holiday.** Museum Closed.
- 25 S. Demonstration—Meat Inspectors' Course.
- 28 T. Lecture to Sanitary Officers at 7 p.m. Elementary Statistics, by H. R. Kenwood, M.B., D.P.H., F.C.S.
- 29 W. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work, by J. Wright Clarke.
- 29 W. Inspection and demonstration at L.C.C. Common Lodging House, Parker Street, Drury Lane, W.C., at 3 p.m.
- 30 T. Demonstration of Book-keeping as carried out in a Sanitary Inspector's Office, in the Parkes Museum at 7 p.m., by Albert Taylor, Sanitary Inspector, City of Westminster.
- 31 F. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.B.I.B.A.
- 31 F. Demonstration—Meat Inspectors' Course.
- 31 F. } Examination in Practical Sanitary Science and for Inspectors of
- 1 S. } Nuisances, Leicester.

NOVEMBER.

- 1 S. Inspection and demonstration at the Southwark and Vauxhall Water Works, Hampton, at about 2.30 p.m.
- 3 M. Lecture to Sanitary Officers at 7 p.m. Sanitary Buildings; Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith.
- 5 W. Inspection and Demonstration in the District of St. Marylebone, at 3 p.m. (number limited), conducted by T. Gorniot, Sanitary Inspector.
- 6 Th. Lecture to Sanitary Officers at 7 p.m. Ventilation, Warming, and Lighting, by Prof. R. Elsey Smith.
- 7 F. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements, and Plans and Sections, by Max Clarke, A.B.I.B.A.
- 8 S. Demonstration—Meat Inspectors' Course.
- 8 S. Inspection and Demonstration at the Richmond Main Sewage Pumping Station and Purification Works, Kew Gardens, at 2.30 p.m.
- 10 M. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by Max Clarke, A.B.I.B.A.

- 12 W. Lecture to Sanitary Officers at 7 p.m. House Drainage, by Max Clarke, A.R.I.B.A.
 14 F. Demonstration—Meat Inspectors' Course.
 14 F. Lecture to Sanitary Officers at 7 p.m. Water Supply, Source of Supply, and Distribution, by Jno. Ed. Worth, M.INST.C.E.
 14 F. } Examination in Practical Sanitary Science and for Sanitary Inspectors, Newcastle.
 15 S. }
 15 S. Inspection and Demonstration at the Sewage and Destructor Works, Ealing, at 2.15 p.m., conducted by Charles Jones, M.INST.C.E.
 17 M. Lecture to Sanitary Officers at 7 p.m. Sewerage, by Jno. Ed. Worth, M.INST.C.E.
 19 W. Lecture to Sanitary Officers, at 7 p.m. Sewage Disposal, by Jno. Ed. Worth, M.INST.C.E.
 21 F. Lecture to Sanitary Officers at 7 p.m. Scavenging, Disposal of House Refuse, by Jno. Ed. Worth, M.INST.C.E.
 22 S. Demonstration—Meat Inspectors' Course.
 24 M. Lecture to Sanitary Officers at 7 p.m. Signs of Health and Disease in Animals destined for Food, when alive and after slaughter. Tuberculin and other Tests, by W. Hunting, F.R.C.V.S.
 26 W. Inspection and Demonstration at Harrison and Barber's Knackers' Yard, Winthrop Street, Whitechapel, E., at 3 p.m.
 26 W. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by W. Hunting, F.R.C.V.S.
 27 Th. Demonstration—Meat Inspectors' Course.
 28 F. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.
 28 F. } Examination in Practical Sanitary Science and for Inspectors of
 29 S. } Nuisances, Manchester.

DECEMBER.

- 1 M. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S.
 3 W. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other Food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption. Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D.
 4 Th. Inspection and Demonstration at the Metropolitan Cattle Market, York Road, N., at 2 p.m., conducted by James King, M.R.C.V.S.
 5 F. Lecture to Sanitary Officers at 7 p.m. Hygiene of Byres, Lairs, Cowsheds, and Slaughter-houses, and all places where Animals destined for the supply of food are kept; and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for Sale and transported, by E. Petronell Manby, B.A., M.D.
 5 F. } Meat Inspectors' Examination, Manchester.
 6 S. }
 6 S. Demonstration—Meat Inspectors' Course.
 8 M. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the Inspection and Sale of Meat and other articles of food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D.
 10 W. Sessional Meeting, 8 p.m. Discussion on Drain Testing, opened by Louis Parkes, M.D., J. Osborne Smith, F.R.I.B.A., and W. C. Tyndale, M.INST.C.E.
 12 F. } Examination in Practical Sanitary Science and for Inspectors of
 13 S. } Nuisances, London.
 19 F. } Meat Inspectors' Examination, London.
 20 S. }
 25 Th. Christmas Day. } Museum Closed.
 26 F. Bank Holiday. }

CONTRIBUTIONS AND ADDITIONS TO LIBRARY

JULY TO OCTOBER, 1902.

* * For publications of Societies and Institutions, &c., see under
"Academies."

ACADEMIES (AMERICAN).

Washington. *American Institute of Architects.* Proceedings of the Thirty-fifth Annual Convention, 1901. 145 pp., 4to. Washington, 1902. *The Institute.*

ACADEMIES (BRITISH).

Durham. *University College of Medicine.* Calendar, 1902-3. 157 pp., 8vo. Newcastle-on-Tyne, 1902. *The University.*

London. *Guy's Hospital.* Prospectus of Medical and Dental Schools, Session 1902-3. *Guy's Hospital.*

— *Institution of Civil Engineers.* Minutes of Proceedings, Vols. CXLVII. and CXLVIII, 1901-2. 552 and 494 pp., 8vo. London, 1902. *The Institution.*

— *Institution of Mechanical Engineers.* Proceedings Jan. and Feb., 1902. 202 pp., 8vo. London, 1902. *The Institution.*

— *Middlesex Hospital.* Reports of the Medical, Surgical, and Pathological Registrars, for the Year 1900. 215 pp., 8vo. London, 1902. *Medical, Surgical, and Pathological Registrars.*

— *Royal Institution of Great Britain.* Proceedings, Vol. XVI., Part III. 261 pp., 8vo. London, 1902. *The Institution.*

— *St. Thomas's Hospital.* Reports, Vol. XXIX. 572 pp., 8vo. London, 1902. *The Secretary.*

West Ham. *Municipal Technical Institute.* Programme of Day and Evening Classes for the Fifth Session, 1902-3. 191 pp., 8vo. London. *The Principal.*

Army Medical Department. Report for the Year 1900, with Appendix, Vol. XLII. 534 pp., 8vo. London, 1902. *Director-General.*

Bengal. Thirty-Fourth Annual Report of the Sanitary Commissioner. 32 pp. (Tables), fcp. *Presented by Maj. H. J. Dyson.*

Bilbao. Memoria Acerca del Estado y Progreso de las Obras de Saneamiento I Villa de Bilbao, Jan.-Dec., 1901. 33 pp. (Tables), fcp. Bilbao, 1902. *T. A. Greenhill.*

Board of Agriculture. Annual Reports of Proceedings under the Diseases of Animals Acts, the Markets and Fairs (Weighing of Cattle) Acts, &c., &c., for the Year 1901. 82 pp., 8vo. London, 1902. *The Secretary.*

Bombay Improvement Trust. Administration Report for the year ending 31st March, 1902. 28 pp. (Tables), fcp. Bombay, 1902. *Chairman of Bombay Improvement Trust*

British Congress on Tuberculosis, London, July 22nd-26th. Transactions, 1901 (4 Vols.). Vol. I. 255 pp., Vol. II. 545 pp., Vol. III. 680 pp., Vol. IV. 177 pp., 8vo. London, 1902.

E. White Wallis, F.S.S.

Cochrane, Miss C. Rural Housing and Sanitation: an Address. 8 pp., 8vo. London, 1902. *The Author.*

Davies, A. M., Lieut.-Col. R.A.M.C., M.R.C.S. A Handbook of Hygiene, 2nd Ed. 624 pp., 8vo. London, 1901. *The Author.*

Hamer, W. H. M.A., M.D. Manual of Hygiene. 622 pp., 8vo. London, 1902. *The Publishers (Messrs. J. & A. Churchill).*

Hill, G. Everett. Sewage Purification Works at Depew, N.Y. 4 pp., 8vo. New York, 1902. *City Wastes Disposal Co., N.Y.*

Kaye, J. R., M.B., D.P.H. Certification and Registration of Death: the Urgent Need for Improvement in. 11 pp., 8vo. London, 1902.

— **Scarlet Fever: How far do Statistics Prove or Disprove the Utility of Hospital Isolation?** 24 pp., 8vo. London, 1902.

The Author.

Local Government Board. Dr. G. S. Buchanan's Report on Re-inspection of the Borough of Falmouth, and on Recent Sanitary Administration therein. 9 pp., fcp. London, 1902.

— **Report of Dr. H. Timbrell Bulstrode, upon an Outbreak of Enteric Fever in the Borough of Whitehaven, and upon the Sanitary Administration of the Town Council.** 15 pp., fcp. London, 1902.

— **Dr. W. W. E. Fletcher's Report on the Sanitary Circumstances of the Kidegrove Urban District.** 6 pp., fcp. London, 1902.

— **Dr. Darra Mair's Report on the Sanitary Circumstances of the Bedlingtonshire Urban District, and on Recent Enteric Fever therein.** 8 pp., fcp. London, 1902.

— **Supplement containing Report of Medical Officer, 1900-1.**
W. H. Power, F.R.S.

· MEDICAL OFFICERS OF HEALTH AND OTHER SANITARY REPORTS.

Aberdeen, 1901	<i>M. Hay, M.D.</i>
Blackburn, 1901	<i>J. Wheatley, M.D.</i>
Cardiff, 1901..	<i>E. Walford, M.D., D.P.H.</i>
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Newport (Port San. Authority) 1901	<i>J. Howard-Jones, M.D., D.Sc.</i>
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Nottingham , 1901	<i>P. Boobyer, M.B.</i>
Notts , 1901	<i>H. Handford, M.D., F.R.C.P.</i>
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Paddington , 1901	<i>R. Dudfield, M.A., M.B.</i>
Rome , 1899-1900	<i>Dr. A. Ballori.</i>
Salford , 1901	<i>C. H. Tattersall, M.R.C.S., L.R.C.P.</i>
Shanghai , 1901	<i>A. Stanley, M.D., B.Sc.</i>
Stockport , 1901	<i>M. Young, M.B., D.P.H.</i>
Surrey , 1901	<i>E. C. Seaton, M.D.</i>
Warwickshire , 1901.. ..	<i>A. Bostock Hill, M.D., M.Sc.</i>
Westminster , 1901	<i>Francis J. Allan, M.D., D.P.H.</i>
West Sussex (including two Districts of E. Sussex), 1901	<i>C. Kelly, M.D., F.R.C.P.</i>
York , 1901	<i>E. M. Smith, M.D., C.M.</i>

Medico-Psychological Association of Great Britain and Ireland.

Report of the Tuberculosis Committee. 34 pp., 8vo. London, 1902. *The Association.*

Melliss, J. C., M.Inst.C.E., F.G.S. E. Retford Sewerage and Sewage Disposal Works. A brief account of the New Works carried out by the Corporation of E. Retford for the Sewering and Disposal of the Sewage of the District. 6 pp., 4to. 1902. *The Author.*

Ontario. Registration of the Births, Marriages and Deaths for the Year 1900. 226 pp., 8vo. Toronto. *Legislative Assembly of Ontario.*

Ottawa. *Laboratory of the Inland Revenue Department*, 1902. Bulletin 81: Fertilizers. 41 pp., 8vo. Ottawa, 1902. *T. Macfarlane.*

Parkes, Louis, M.D., and Kenwood, H., M.B. Hygiene and Public Health, 2nd Edition. 763 pp., 8vo. London, 1902. *The Publisher (H. K. Lewis).*

Peabody, R. S., Pres. Am.Inst.Arch. Address delivered at the Thirty-fifth Annual Convention of the American Institute of Architects in Buffalo, New York, October 3rd, 1901. 10 pp., 4to. Washington, 1902. *The Author.*

Peterson, C. W. The Duties of the Public in respect to Infectious and Contagious Diseases. 7 pp., 8vo. *The Author.*

Poore, Prof. G. V., M.D., F.R.C.P. The Earth in Relation to the Preservation and Destruction of Contagia, being the Milroy Lectures delivered at the Royal College of Physicians in 1899, together with other Papers on Sanitation. 257 pp., 8vo. London, 1902. *The Author.*

- Rankin, E. G., A.M., M.D.** The Tuberculosis Infirmary of the Metropolitan Hospital, Blackwell's Island, Department of Public Charities, New York, the first Institution under the Municipal Authorities of the City of New York for the Exclusive Care of Tuberculous Patients. 6 pp., 8vo. *The Author.*
- Shenton, H. C. H.** The Modern Treatment of Sewage. The preparation of Schemes, Laying of Sewers, and Sewage Disposal, 117 pp., 8vo. London, 1902. *The Author.*
- Suisse.** Examen Pédagogique des Recrues en Automne, 1901. 16 pp., fcp. Berne, 1902.
Le Bureau de Statistique du Département Fédéral de l'Intérieur.
- Vinrace, Dennis, M.R.C.S., L.S.A.** The War against Consumption: a Popular Handbook of the Proceedings of the British Congress on Tuberculosis, held in London, 1901. Revised by J. H. Vinrace, M.B., M.R.C.P. Second Edition. 182 pp., 8vo. London, 1902. *The Author.*
- Whitaker, W., B.A., F.R.S.** Presidential Address to the Croydon Microscopical and Natural History Club. 11 pp., 8vo.
- Address to the Geologists' Association: "A Dozen Years of London Geology." 22 pp., 8vo. London, 1902.
- Some Surrey Wells. 20 pp., 8vo. *The Author.*
-

TRAINING OF SANITARY INSPECTORS.

In order to assist those candidates who propose to prepare themselves for the duties of a Sanitary Inspector, the Council of The Sanitary Institute have addressed a letter to some of the principal Sanitary Authorities in England, asking if they would grant facilities to suitable candidates for going round with the acting Inspector on some of his visits at certain convenient times, in order to gain a practical insight into the duties of a Sanitary Inspector.

It was thought that some arrangement of this kind would be advantageous to the Public Health service as well as to the Candidates themselves, because it would enable Sanitary Authorities, in making appointments, to select men who had already received some practical training before taking up their duties.

In response to this circular letter, the Authorities in the following towns have already replied that they are willing to grant the facilities under certain conditions.

Blackburn.
Burnley.
Bury.
Cardiff.
Hanley.
Huddersfield.
Liverpool.
Newcastle.

Plymouth.
Sheffield.
Stockport.
Sunderland.
Warrington.
West Hartlepool.
Wolverhampton.

These conditions embody the following points, but vary in different towns :—

1. Each person desiring to avail himself of the facilities for study afforded by the Department (with the view of qualifying for an inspectorship) must satisfy the M.O.H. that he is a suitable candidate to enter for the examination, with a fair prospect of success when examined, and that he is a fit and proper person to act as a Sanitary Inspector when sufficiently instructed.

2. He must state at the outset the period during which he desires to study the work of an Inspector.

3. During the period of study he must place himself for not less than six hours weekly under the direction of the M.O.H. and the Inspector or Inspectors of the District in which he is to work, and these officers will arrange for his employment as far as possible in the capacity of a temporary assistant to the Inspector in the various duties the latter is called upon to perform.

4. At the end of his period of study he shall receive a letter stating the length of time he has devoted to the acquisition of

practical knowledge of an Inspector's duties, and as far as possible the actual work at which he has assisted, or which has come under his observation.

Further information with respect to the arrangements will be published in a subsequent Journal, or can be obtained from the Office of the Institute.

GENERAL NOTES.



Photographs sent by E. P. Davies, Associate, showing some sewers constructed within the last twenty years at a mansion known as Knoyle House, which is situated at East Knoyle, on the side of the road opposite the birth-place of Sir Christopher Wren.

There were four sewers laid side by side, one of 9 in., and three of 6 in. pipes, with a large number of syphons at various unknown points, all of which were choked, and the numerous branches discharging thereto had been very defectively connected. They have now been removed and the drainage reconstructed.

PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

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FIRST REPORT OF THE DEPARTMENTAL COMMITTEE
ON THE VENTILATION OF FACTORIES AND WORK-
SHOPS, WITH APPENDICES.*

Appendix No. 1 has 85 pages of tables, embodying the large amount of work done for the Report during 1901 and 1902 on the results of the examination of the ventilation of workshops and factories in nearly every variety of trade. The situations and dimensions of the rooms are given, and the number of occupants, temperature and means of illumination and ventilation in actual use at the time. The amount of CO_2 in the inside and outside air is recorded. In only a few cases the number of bacteria and of moulds was determined by drawing the air through glass and transferring the plug to nutrient jelly. A number of unpublished data are also included, which were placed at the disposal of the Committee by Dr. Robertson, M.O.H. for Sheffield, as they were obtained by him in file-cutting workshops. In view of some things that have been said, it is interesting to gather from tables B and C relating to tailoring workshops, whose occupants are respectively "English" (11 shops) and "Jewish and Foreign" (15 shops), that the average space per person is the same in both cases, 380 cubic ft., while the CO_2 per 10,000 volumes of air was, in the "English," 18·4, and in the "Jewish" 10 volumes.

The second Appendix is the most interesting part of the Report, as it contains within the short compass of 21 quarto pages a lucid discussion supplemented by valuable details, collected and original, of the conditions which render general ventilation necessary in factories and workrooms, and the means by which it can be attained. It would seem at first sight almost superfluous completeness that the composition of dry pure air is given so fully as "oxygen 20·94, nitrogen 78·09, argon 0·94, carbonic acid 0·03, *helium*, *krypton*, *neon*, *xenon*, and *hydrogen*, traces;" but it is right to take cognizance of

* First Report of the Departmental Committee on the Ventilation of Factories and Workshops, with Appendices. 122 pp. and 4 Plates. Eyre & Spottiswoode. 1902. Price 1s. 6d.

the newly-discovered gases, as their significance and possible physiological action is not yet known. With reference to the figure for carbon dioxide, as it would be preferably called in "air free from aqueous vapour," it is shown by some hundreds of analyses made gravimetrically on large quantities of air in France and Scotland that the old determinations of CO_2 are too high, and that the average proportion in dry pure air is 3 vols. per 10,000 (not 4 as used to be stated), which may vary to 3.5 at night, or to 2.6 by day, and in fogs may rise to even thrice the amount. The impurities in air arising from persons present, lights, and dust and fumes are separately studied.

The third Appendix gives a description of Dr. Haldane's apparatus for determining CO_2 in air and of the methods of taking samples, on which much of the value of the determinations depends. They should be collected at about the centre of the room (not too near inlets or outlets) nor at two opposite points, not during fogs or on windy days; and a reasonable time should have elapsed after work has commenced. In the case of a daylight sample lights should have been out for at least an hour. Dr. Haldane shows that a 2-oz. bottle of air is sufficient for analysis with his apparatus, and proposes that inspectors should collect such samples in *dry clean* bottles, and that they might be "enclosed in corrugated paper and sent by post for analysis." Whether such a proceeding, with a possibility of leakage and other dangers, will be preferable to determinations on the spot with a portable apparatus and with larger quantities of air, only experience will decide.

Dr. Haldane's and Mr. Osborn's summing up, which prefaces the Report, makes five recommendations: first, that the CO_2 , under defined conditions in factories and workshops, should not be allowed to exceed 12 volumes in daylight or when only electric light is used, and 20 volumes after dark when gas or oil is employed for lighting. Other recommendations relate to cotton-cloth factories, to analyses, notice, and to portable apparatus.

The Committee thus advise the partial or entire substitution of a purity limit for the old prescription of minimum cubic space, as "the existence of a certain cubic air-space per person affords no reliable guarantee of reasonably sufficient ventilation." It will be seen that the permissible maximum of CO_2 has been much raised from De Chaumont's 6 or Pettenkofer's 10. Yet even then there should be a certain caution in framing legislation on the basis of a limit of CO_2 . The Committee themselves give evidence to prove that "the mere increase of carbonic acid and diminution of oxygen to the extent which actually occurs in the air of buildings has no direct influence on the comfort or health of individuals." But "the importance of the carbonic acid . . . arises solely from the fact that it is an index of conditions which are usually prejudicial to both health and comfort." The Report, however, recognizes that CO_2 may have origin in other causes than respiration and lighting, when it advises that an exception be made "in cases where the extra carbonic acid is produced in other ways . . . as in breweries," &c. A CO_2 limit, moreover,

omits considerations of other factors discussed in the Report, such as sulphur fumes caused by combustion, dust, and vapours from manufactures. Finally, it is much to be regretted that no unexceptionable method is known for determining injurious respiratory products.

S. R.

NATURAL AND ARTIFICIAL SEWAGE TREATMENT.*

This little work is collaborative only as regards the title page and preface and the common object, otherwise the two portions of the book are separately written by their authors. The tone is highly controversial, as implied by Mr. Roechling in his opening observations. The selection of the title, although it was the classification unfortunately adopted by the Royal Commission, seems an attempt to prejudice the question, as is also Col. Jones' division into "clean" and "dirty" systems (p. 5). Even with bacterial processes assisted by heat or forced aeration the term "artificial" is inappropriate, as the first is merely what goes on in the tropics, and the second similar to the action of winds, cascades and flowing rivers. A well-managed septic tank and contact beds are not more "dirty" than a well-managed sewage farm.

The reviewer has elsewhere pointed out that the former may be best described as "controlled natural purification" on relatively small areas; the latter, when contours, intermittent application and special modes of drainage are introduced, is "controlled natural purification" on relatively large areas, while broad irrigation is uncontrolled natural purification. Mr. Roechling himself observes (p. 37) that all bacterial processes are natural ones. He gives a clear résumé of the functions of soil in purification, and some useful statistics of tanks and contact beds in various localities, including foreign practice. He concludes (p. 96) that "generally speaking, that system will be preferred which confers the greatest number of advantages." One of these that he actually quotes in favour of sewage farms—"a great reduction of the the quantity of liquid"—will be by no means a benefit where water-courses, especially in summer, become almost dry.

S. R.

MANUAL OF HYGIENE.†

In seeing that a new manual of hygiene has been presented to the public, the first thought to strike one is "can there be room for another?" because at the present time so many manuals and hand-books of hygiene of various size and quality have been published.

On a careful examination, however, such an idea soon becomes dispelled, for it is obvious that in the latest work on this subject of public health the one under review may worthily take high rank.

* Natural and Artificial Sewage Treatment. By Lieut.-Col. Alfred S. Jones, V.C., and H. Alfred Roechling. 96 pp., 8vo. E. & F. N. Spon. 1902.

† Manual of Hygiene. By W. H. Hamer, M.A., M.D., D.P.H., B.Sc., F.R.C.P. 622 pp., 8vo. London, 1902. J. & A. Churchill. Price 12s. 6d.

Dr. Hamer has treated the subject on what may be termed "old lines," and, as he says in his preface, it has been specially designed for the needs of those who are seeking to obtain a public health diploma; but it can at once be said that it is also admirably adapted for those who seek a scientific exposition of all the more important facts of hygiene.

The book proper is preceded by an introductory chapter on the "Rise and Progress of Preventive Medicine," which is an admirable résumé of the facts bearing on this part of the subject.

The subject of "Air and Ventilation" is next introduced. This is divided into four sub-divisions, namely: "The Physical Properties of the Atmosphere," "The Composition and Examination of Air," "Atmospheric Impurities," and "Ventilation and Heating." On the whole this chapter is an excellent one, though perhaps it is somewhat a fair criticism to make that the amount of space given to "The Physical Properties of the Atmosphere" is rather excessive compared with that devoted to the more practical parts of the subject. Such subjects as "The Weight of Air," "Boyle and Marriotte's Law," "Diffusion of Gases," &c., are far better dealt with in a text-book of physics than in such a manual as the one under review.

The chapter devoted to "Water," which follows, is somewhat unequal. It is undoubtedly deficient in its treatment of much of practical importance, while an undue space is given to "The Chemical and Microscopical Examination of Water." It must be obvious, I think, that nineteen pages out of a total of forty-four is an undue amount of space to be devoted to this subject, particularly as it is one which can only be properly studied by practical work in a chemical laboratory.

The chapter on "Soils" is an excellent one, a strong point in it being the consideration of the relation of soil to certain diseases, particularly Phthisis.

The chapter on "Food" is comprehensive, but the first part of it, referring to the varieties of food, is reduced to rather small proportions, while relatively we think too much attention is given to arsenical poisoning in beer, a subject which, in such a volume as this, had better be left to official reports or larger works of reference.

The next chapter, referring to "Collection, Removal of Refuse," &c., is on the whole satisfactory, a very good though rather short description being given of the various processes now in use, including the methods of biological purification.

The chapter on "Dwellings, Schools and Hospitals" is also satisfactory, a very good account being given of the necessity of open space around dwellings.

Undoubtedly the best section of the book is that devoted to "Infection and Infectious Diseases." Here the author appears particularly at home, and the consequence is that not only a complete, and also a very explicit account of the present knowledge of the theory of infection and immunity is given, but also a succinct and interesting review of the natural history of the more important diseases, with a short but thoroughly up-to-date account of dis-

infection and methods by means of which infectious diseases are combated.

The book also contains a chapter on "Vital Statistics" which, though short, is quite scientific, and a very good résumé of the subject, while it is brought to a conclusion by a digest of sanitary law as applying to the country generally, and at the same time an insight into sanitary administration is afforded.

It is not an easy matter to give a lucid and at the same time condensed account of lengthy Acts of Parliament, but we are bound to admit that in this case the author has succeeded to a considerable extent.

Altogether it must be acknowledged that the work, as a text-book of hygiene, is excellent. It is up-to-date, on the whole it is well-balanced, and it may worthily take its place among the best of its predecessors.

A. B. H.

A HANDBOOK OF HYGIENE.*

The first edition of this work met with a favourable reception, and the good opinion formed of it will be more than maintained by the second edition.

The author modestly asserts that it is little more than a compilation. The same may be said of all the works upon hygiene and public health at present regarded as text-books upon the general subject—if we except Edmund Parkes' great work.

Colonel Davies is entitled to great credit, however, for his compilation, for it is unequivocally good, and when this may be said of a work upon such a wide-reaching subject as public health, it argues considerable knowledge on the part of the compiler, and a judgment in the selection of the material which no one who is not particularly well informed on the subject could exercise without making serious mistakes.

The work in its present form contains a large amount of information in a very small space, and the print is therefore small and trying to the eyes, and doubtless it is the fulness with which most subjects are discussed which makes the treatment of one or two subjects—such as, for instance, vital statistics—appear the more inadequate by comparison.

The principal additions to be noted in this second edition have reference to the subjects of air, water, soil, the disposal of sewage, and communicable disease. The facts relating to each of these subjects are brought up to date, but the bulk of the book has not been materially increased.

H. R. K.

* A Handbook of Hygiene. By A. M. Davies, M.R.C.S., L.S.A., D.P.H., Lieut.-Col. R.A.M.C. Second Edition, Illustrated. 624 pp. London, 1901. Griffin & Co., Ltd. Price 8s. 6d.

ARTICLES RELATING TO PUBLIC HEALTH,

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Abstracts of Titles classified in this List under the following headings :—

Science in Relation to Hygiene and Preventive Medicine.
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Heating, Lighting, and Ventilating.

Personal and Domestic Hygiene.

The articles referred to in this list are as far as possible collected and filed in the Library of the Institute for the use of the Members and Associates.

Science in relation to Hygiene and Preventive Medicine.

BOND, FRANCIS D., M.D. The Vaccination Act, 1898, and its Renewal. *Journal of State Medicine*, January, 1903, p. 14.

BURDACH, A. Der Nachweis von Typhusbacillen am Menschen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 2, p. 305.

The author deals with the identification of typhoid bacilli in human beings.

BURGESS, W. T. A Simple Apparatus for approximately estimating the Colours of Waters. *Analyst*, October, 1902, p. 294.

CAMERON, J. SPOTTISWOODE, M.D., B.Sc. Women as Sanitary Inspectors. *Journal of State Medicine*, Dec., 1902, p. 743.

DOENITZ, W. Beiträge zur Kenntniss der Anopheles. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., This is a very interesting contribution to our knowledge of anopheles.

HARVEY, F. T., F.R.C.V.S. Some points on the Hygiene of the Udder, and the conditions of milk production in rural districts. *Journal of State Medicine*, Nov., 1902, p. 75.

HARVEY, SIDNEY, F.I.C. Notes on the estimation of Salicylic Acid. *Analyst*, January, 1903, p. 2.

KIONKA, Prof. H., and EBSTEIN, Dr. L. Ueber die chronische Sulfitvergiftung. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 1, p. 123.

The author deals with chronic sulphite poisoning.

KISTER, Dr. J., und WOLFF, Dr. H. Zur Anwendbarkeit des serodiagnostischen Blutprüfungsverfahrens. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 3, p. 410.

This is a short paper on the applicability of the method of examining blood by sero-diagnosis.

KOLLE, Prof. Dr. W., und OTTO, Dr. R. Die Differencirung der Staphylokokken mittelst der Agglutination. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 3, p. 369.

This is an interesting paper on the differentiation of staphylococci with the aid of agglutination. In concluding their investigations the authors state that we know now three constituent bodies of the serum of staphylococci, viz., Antileukocidin, Antihæmolysin, and Agglutinine.

KRAUS, Dr. R., KELLER, Dr. E., und CLAIRMONT, Dr. P. Ueber das Verhalten des Lyssavirus im Centralnervensystem empfänglicher, natürlich immuner und immunisirter Thiere. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 3, p. 486.

This is a paper on the behaviour of the Lyssavirus in the central nervous system of susceptible naturally immune and immunised animals.

KRAUS, Dr. R., und MARESCH, Dr. R. Ueber die Bildung von Immunsustanzen gegen das Lyssavirus bei natürlich empfänglichen und unempfänglichen Thieren. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 3, p. 527.

This is a paper on the formation of immunising substances against the Lyssavirus in naturally susceptible and unsusceptible animals.

LOTZ, Dr. A. Der Typhus abdominalis in Kleinbasel von 1875–1900. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 2, p. 185.

The author deals with the movements of typhoid fever in little Basle during the years 1875 to 1900, and traces this disease to a certain source of water supply, which has now been abandoned.

MARTINI, Dr. E. Beschleunigung und Sicherung der Pest diagnose in zweifelhaften Fällen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 1, p. 153.

This is a short paper on the acceleration and correctness of the diagnosis of bubonic plague in doubtful cases.

MARTINI, Dr. E. Ueber die Entstehung der Neuerkrankungen an Malaria während des Frühjahrs und Sommers unserer Breiten. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 1, p. 146.

The author deals with the origin of fresh cases of malaria during the Spring and Summer in our latitudes.

— und Dr. O. LENTZ. Ueber die Differenzirung der Ruhrbacillen mittels der Agglutination. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 3, p. 540.

This is a paper on the differentiation of dysentery bacilli with the aid of agglutination.

MILLARD, C. KILLICK, M.D., D.Sc. Recent experience of small-pox in Leicester. *Journal of State Medicine*, January, 1903, p. 31.

OTTO, Dr. R. Ueber den Einfluss der Thierpassagen auf die Virulenz der Pestbacillen fuer die verschiedenen Thierarten. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 3, p. 380.

The author deals with the influence of repeated passage from animal to animal on the virulence of the bacilli of bubonic plague for various species of animals.

RAWORTH, J. S. The Prevention of Smoke. *Builder*, Oct. 25th, 1902, p. 371.

Description of the Wilson Smokeless Process for Boilers, including report and tests by H. Wall Wilkinson, A.M.Inst.C.E., a paper read at the Belfast meeting of the British Association.

RODELLA, Dr. A. Ueber die Bedeutung der im Säuglingsstuhle vorkommenden Mikroorganismen mit besonderer Berücksichtigung der anaeroben Bakterien. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XL., Heft 3, p. 466.

This is a continuation of a former paper by the same author on the importance of micro-organisms in the stools of sucklings, with special reference to anaerobic bacteria.

RONALD ROSS, Major, C.B., F.R.S. Intermittent Fever. *Journal of State Medicine*, Dec., 1902, p. 719.

ROSS, RONALD, C.B., F.R.S., F.R.C.S. Intermittent Fever. *Journal of State Medicine*, January, 1903, p. 1.

Being the second of the Harben Lectures.

SCHUEDER, —., and PROSKAUER, Prof. Ueber die Abtoedtung pathogener Bakterien im Wasser mittels Ozon nach dem

System Siemens u. Halske. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 2, p. 227.

The authors describe their experiments at the experimental station of Messrs. Siemens & Halske, Electrical Engineers, for the purpose of ascertaining the destruction of pathogenic bacteria contained in water through Ozone.

SCHUEFFNER, Dr. W. Die Beziehungen der Maleriparasiten zu Mensch und Muecke an der Ost Küste Sumatras. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 1, p. 89.

This is an interesting paper dealing with the relations existing on the East coast of Sumatra between malaria parasites, human beings, and anopheles.

SHIGA, Dr. K. Weitere Studien über den Dysenteriebacillus. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 2, p. 355.

The paper deals with the bacillus of dysentery.

SILBERSCHMIDT, Dr. W. Bakteriologisches über einige Fälle von "Gangrème foudroyante" von Phlegmone u. von Tetanus beim Menschen. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 3, p. 427.

This is a contribution to our knowledge of pathogenic anaerobes.

SMITH, W. R., M.D., D.Sc. Carburetted Water-gas Poisoning. *Journal of State Medicine*, Dec., 1902, p. 729.

SPIESS, Dr. ALEX. Repertorium der im Jahre 1901 in deutschen und ausländischen Zeitschriften erschienenen Aufsätze über öffentliche Gesundheitspflege. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 4, p. 741.

This is an excellent index, in 221 pages, to the literature of public health, which has made its appearance during the year 1901.

WEHMER, R. Rueckblicke auf die zweite internationale Syphilis Konferenz zu Brüssel vom 1-6 September, 1902. *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, Vol. XXXIV., Heft 4, p. 689.

This is a report on the second Syphilis Conference held at Brussels in September last.

Hygiene of Special Classes, Trades, and Professions; and Municipal Administration.

BREWER, C. C., and WALKER, Dr. JANE. Sanatoria for Consumptives. *Builder*, 29th Nov., 1902. p. 495.

Papers read before the Architectural Association upon the different

ways and the growth of the open-air treatment, with a general description of the daily life of a patient.

DAUBNEY, CHAS. A. (Godwin Bursar), A.R.I.B.A., F.S.I. Fire Escapes in American Commercial Buildings. *Journal of the Royal Institute of British Architects*, 6th Dec., 1902, p. 53. Third Series, Vol. 3, No. 3.

The conclusions he gives at the end of his paper are a careful summary of the subject, and points out the direction in which future legislation will be required.

1. Adequate fire protections for all buildings, inspection of size and capacity.

2. The compulsory use of only fire resisting materials.

3. Limitation of the height of buildings.

4. Restriction in the area of undivided floors.

5. Protection of well holes, lifts, sky-lights and other flues to prevent the spread of fire beyond the floor on which it originates.

6. The use of fire escapes which lead the persons outside the burning building.

7. The proportion of floor area to staircase accommodation.

In conclusion he suggests that fire protection is a wise and profitable investment for the employer of labour, as well as for the property owner. For the city it implies a small but efficient fire brigade, while for the community at large it provides relief from a most terrifying danger.

JONES, ELIJAH. Hanley, Stoke, and Fenton Joint Infectious Hospital. *Builder*, 25th October, 1902, p. 370.

Plan, bird's-eye view, and description of buildings.

REED, HARBOTTLE. The Construction of Sanatorium Buildings for Consumptives. *Builder*, 6th Sept., 1902, p. 209.

Description of various types of building.

THORP, W. H., and ROWNTREE, FRED. Friends' Boys' School, Bootham, York. *Builder*, 23rd August, 1902, p. 169.

Description of buildings, with plans and perspective view.

TOZER, H., Vice-Chairman of Housing Committee, Westminster City Council. The Housing of the Working Classes. *Builder*, 6th Sept., 1902, p. 211.

Arguments for avoiding overcrowding, and details of dwellings required; how to provide them, and the cost.

Building Materials, Construction, and Machinery.

EDEN, F. C. Roof Coverings. *Builder*, Nov. 15th, 1902, p. 440.

A critical description of various roof coverings, old and new. The discussion upon the paper is as interesting as the lecture.

Water Supply, Sewerage, and Refuse Disposal.

BAKER, Sir BENJAMIN. Nile Barrage and Reservoir Works. *Builder*, Sept. 20th, 1902, p. 252.

Photo-lithographs, details and plans of works; also a leading article on page 241.

BARKER, ALGERNON, Barrister-at-Law. Duties as to Drains. No. 1, *Journal of R.I.B.A.*, Aug. 30th, 1902, p. 464.

A lecture giving the legal aspect of this subject in detail under numerous headings.

——— Duties as to Drains. No. 2. *Journal of R.I.B.A.*, Sept. 27th, 1902, p. 494.

A lecture giving the legal aspect of this subject in detail under numerous headings.

——— Duties as to Drains. No. 3. *Journal of R.I.B.A.*, Oct. 11th, 1902, p. 518.

A lecture giving the legal aspect of this subject in detail under numerous headings.

BERGER, Dr. H. Die Einleitung von Kaliindustrie-Abwässern in die Fluesse, besonders mit Berücksichtigung der Wasserversorgung grosser Städte. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 1, p. 271.

The author deals with the discharge into rivers of effluents from works for the treatment of potassium, with special reference to the water supply of large towns.

“**BUILDER,**” EDITOR OF THE. Drains from Semi-detached Houses. *Builder*, 15th Nov., 1902, p. 436.

Editorial remarks upon a report of a law case in which was again raised the question as to the drains from two semi-detached houses being considered a sewer, and vested in local authorities.

“**BUILDER,**” EDITOR OF THE. The Nile Dams. *Builder*, Sept. 27th, p. 241.

Description and mode of construction.

DIXON, J. RUSH, A.M.Inst.C.E. Underground Conveniences. *Builder*, Aug. 16th, 1902, p. 149.

Description of these buildings, including management and cost.

MAWBAY, E. GEORGE, M.Inst.C.E. Address to Engineering Section, Congress of R. Inst. Pub. Health. *Builder*, Aug. 30th, 1902, p. 191.

It treats of pure air and water, the smoke nuisance, sewer ventilation, old branch sewers, and sewage purification.

Heating, Lighting, and Ventilating.

"BUILDER," EDITOR OF THE. Railway Ventilation. *Builder*, 11th October, 1902, p. 313.

Comment upon the experiments at Bond Street, Central London Railway.

Personal Domestic Hygiene.

ASCHER, Dr. Was ist sociale Hygiene, und wie soll sie getrieben werden? *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 1, p. 1.

This is a short paper on social hygiene and how it is to be practised.

PRIESTLEY, J., M.D. Domestic Filtration. *Builder*, Aug. 2nd, 1902, p. 102.

The author points out that all filters are objectionable, except the "Pasteur" and the "Berkefeld," and discusses the relative merits of these two.

REICHENBACH, Dr. H. Ueber dem Einfluss der Farbe künstlicher Lichtquellen auf die Sehschärfe. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 1, p. 257.

The paper deals with the influence of the colour of artificial sources of light on sight.

SCHUMBURG, Dr. Ueber die Desinfectionskraft der heissen Luft. *Zeitschrift für Hygiene und Infektionskrankheiten*, Vol. XLI., Heft 2, p. 167.

The paper deals with the disinfecting power of hot air.

MEETINGS HELD OCTOBER TO DECEMBER, 1902.

SESSIONAL MEETING.

A Meeting was held on December 10th, 1902, when a Discussion was opened by LOUIS PARKES, M.D., D.P.H.; J. OSBORNE SMITH, F.R.I.B.A.; and W. C. TYNDALE, M.Inst. C.E., on "Drain Testing." Prof. W. H. Corfield, M.A., M.D., F.R.C.P., in the chair.

EXAMINATIONS.

From October to December the following Examinations were held:—

PRACTICAL SANITARY SCIENCE.

November 28th and 29th, 1902, Manchester. 8 Candidates, 2 Certificates.

November 12th and 13th, 1902, London. 17 Candidates, 5 Certificates.

INSPECTORS OF NUISANCES.

October 31st and November 1st, 1902, Leicester. 33 Candidates, 17 Certificates.

November 14th and 15th, 1902, Newcastle-on-Tyne. 48 Candidates, 24 Certificates.

November 28th and 29th, 1902, Manchester. 166 Candidates, 80 Certificates.

December 12th and 13th, 1902, London. 131 Candidates, 58 Certificates.

INSPECTORS OF MEAT AND OTHER FOODS.

December 5th and 6th, 1902, Manchester. 7 Candidates, 5 Certificates.

December 19th and 20th, 1902, London. 16 Candidates, 11 Certificates.

CANDIDATES WHO HAVE RECEIVED CERTIFICATES,
Nov.—Dec., 1902.

Practical Sanitary Science.

1902, Dec. 13. ARNALL, GEORGE.
1902, Dec. 13. BUTLER, HENRY LAWRENCE.
1902, Nov. 29. CARTLIDGE, FRANK.
1902, Nov. 29. GOODWIN, WILLIAM JOHN.
1902, Dec. 13. HALL, JOHN THOMAS.
1902, Dec. 13. SILLS, JOSEPH HOWARD.
1902, Dec. 13. WOOD, WM. HENRY.

Inspectors of Nuisances.

1902, Dec. 13. ABBOTT, ARTHUR JOE.
1902, Nov. 29. ACHESON, JOSEPH HERBERT.
1902, Dec. 13. LADDISON, OLIVE ROSALIE.
1902, Nov. 29. AKHURST, ARTHUR.
1902, Dec. 13. ALLEN, PERCY DAVIES.

1902, Nov. 29. ALLEN, WALTER.
1902, Nov. 29. ANDREW, PERCY.
1902, Nov. 29. ATKINSON, PERCY.
1902, Nov. 15. ATKINSON, THOMAS WILLIAM.
1902, Nov. 15. ATKINSON, WILLIAM.
1902, Dec. 13. BACON, FREDERICK WILLIAM.
1902, Nov. 15. BACON, WILLIAM FENNER.
1902, Nov. 29. BAKER, BENJAMIN.
1902, Dec. 13. BARNES, IRWIN FRANCIS.
1902, Dec. 13. L BARRETT, MARY ALICE PAULINE.
1902, Nov. 29. BARROW, CHARLES ROBERT.
1902, Nov. 15. BEAN, WILLIAM.
1902, Dec. 13. BENTON, GEORGE RICHARD.
1902, Dec. 13. BIETWISTLE, JAMES ALFRED.
1902, Nov. 29. BIETWISTLE, WALTER ASHWORTH.
1902, Nov. 29. BODDIS, SAMUEL.
1902, Nov. 29. BOLTON, THOMAS.
1902, Dec. 13. BORGARS, JOHN.
1902, Dec. 13. BRADBURY, ERNEST.
1902, Nov. 29. BRADSHAW, TOM.
1902, Nov. 29. BRIGG, THOMAS.
1902, Nov. 29. BROCKLESBY, GEORGE.
1902, Nov. 1. BROOMFIELD, ROBERT HENRY.
1902, Nov. 15. BROUGHTON, CHARLES.
1902, Nov. 29. BROWN, ALFRED ALEXANDER.
1902, Nov. 29. BROWN, GEORGE.
1902, Nov. 15. BULLEY, WILLIAM JOHN COUREY.
1902, Dec. 13. BURR, HENRY GEORGE.
1902, Dec. 13. CANTLOW, JOSEPH CHARLES.
1902, Nov. 29. CARROLL, THOMAS LEONARD.
1902, Dec. 13. CARSWELL, CHARLES WILLIAM.
1902, Nov. 15. CARTER, SEPTIMUS.
1902, Nov. 29. CAWTHORNE, THOMAS.
1902, Nov. 29. CHAMBERLAIN, ALBERT EDWIN.
1902, Nov. 29. CHARLESWORTH, ROBERT.
1902, Dec. 13. CHATTERJIE, NOEL CLEMENT.
1902, Nov. 29. CLARK, DAVID ALEXANDER.
1902, Nov. 29. CLARKE, JAMES ARTHUR.
1902, Dec. 13. CLAYDEN, WILLIAM.
1902, Nov. 1. CLUNAN, MICHAEL.
1902, Dec. 13. COKE, ALFRED POWEL.
1902, Dec. 13. COLE, HENRY.
1902, Nov. 29. COLES, RICHARD GEORGE.
1902, Nov. 29. COLLINS, ALLEN.
1902, Nov. 15. COOPER, ROBERT.
1902, Nov. 29. COTTON, ENOCH.
1902, Nov. 29. COWDEN, ERNEST WILLIAM.
1902, Nov. 29. CROOK, FELIX.
1902, Nov. 29. CROSSLEY, ALBERT EDWARD.

1902, Nov. 29. CROSSLEY, GEORGE JACKSON.
 1902, Dec. 13. CROWTER, GEORGE EDWARD.
 1902, Nov. 29. DANE, HARRY.
 1902, Dec. 13. DAVIES, ENOCH CHRISTOPHER.
 1902, Dec. 13. DAVIS, PHILIP.
 1902, Dec. 13. DAVIS, WILLIAM.
 1902, Nov. 1. DAWES, JESS COOPER.
 1902, Dec. 13. DIGGLE, ALBERT.
 1902, Nov. 15. DOUGLAS, THOMAS.
 1902, Nov. 29. EDMUNDS, ALBERT ERNEST.
 1902, Dec. 13. EDWARDS, CHARLES WELLINGTON.
 1902, Nov. 29. ETOHELLE, WILLIAM.
 1902, Nov. 29. ETENFELD, JOSEPH WILLIAM.
 1902, Nov. 15. FAIRCLOUGH, WILLIAM HAROLD.
 1902, Nov. 29. FAIRHURST, JOHN.
 1902, Nov. 29. FARRELL, FRANK.
 1902, Nov. 1. FIRTH, CHARLES.
 1902, Nov. 29. FISH, JOHN EDWARD.
 1902, Dec. 13. FISHER, FREDERICK ALFRED.
 1902, Dec. 13. FLACK, WILLIAM.
 1902, Dec. 13. FORWARD, JOHN SAMUEL.
 1902, Dec. 13. L GALLAHER, FRANCES MARTHA.
 1902, Nov. 1. GIBBS, PERCY ROLAND.
 1902, Nov. 29. GOUGH, WILLIAM VAUGHAN.
 1902, Nov. 1. GRACE, JOSEPH MILLS.
 1902, Nov. 1. GREIG, FREDERICK WILLIAM.
 1902, Nov. 29. GUY, STEPHEN.
 1902, Nov. 29. HAGUE, WALTER.
 1902, Dec. 13. HANCOCK, THOMAS HENRY.
 1902, Dec. 13. HARMAN, ALBERT GEORGE.
 1902, Nov. 15. HARPER, JAMES WALTER.
 1902, Nov. 1. L HARRISON, ADA ALICE.
 1902, Nov. 15. HETHERINGTON, JOSEPH.
 1902, Nov. 29. L HILLAS, MADGE.
 1902, Nov. 29. HOCKING, JOHN WILLIAM.
 1902, Nov. 15. HODGSON, HENRY TINDLE.
 1902, Nov. 29. HOLDEN, FRANK.
 1902, Nov. 29. HOLDEN, FRED DE LANNOY.
 1902, Nov. 29. HORSEFALL, JOHN HENRY.
 1902, Dec. 13. HOUGHTON, ALBERT JAMES.
 1902, Nov. 1. HOWARD, HENRY CHARLES.
 1902, Dec. 13. L HUGHES, FLORA ANN.
 1902, Nov. 29. HUTTON, BENJAMIN.
 1902, Nov. 1. ILLINGWORTH, BENJAMIN LEDGARD.
 1902, Nov. 29. JACKMAN, JOHN ROBERT.
 1902, Dec. 13. JEMMETT, PERCY JAMES.
 1902, Nov. 29. JENKINS, WILLIAM DAVID.
 1902, Nov. 29. JENKINSON, FRANCIS CROFTS
 1902, Nov. 15. JOHNSON, WILLIAM.

1902, Nov. 29. JOHNSTONE, CHARLES.
1902, Dec. 13. JONES, EVAN.
1902, Nov. 29. JONES, JOHN ELIAS.
1902, Nov. 29. JONES, WILLIAM.
1902, Dec. 13. KETT, PHILIP FREDERICK.
1902, Dec. 13. KING, JAMES ERNEST.
1902, Dec. 13. L LAMONT, ELLEN MARY.
1902, Dec. 13. LANGFORD, WILLIAM JAMES.
1902, Nov. 15. LEATH, THOMAS.
1902, Nov. 1. LILLY, CHARLES.
1902, Dec. 13. LODDER, THOS. CHARLES.
1902, Nov. 29. LONG, WILLIAM CHARLES.
1902, Dec. 13. LORD, GEORGE EDWARD.
1902, Nov. 29. LOYD, THOMAS ALFRED LAND.
1902, Nov. 29. LLOYD, WALTER JAMES.
1902, Nov. 15. LYTHGOE, WM. STEWART.
1902, Nov. 15. MACGREGOR, WILLIAM ALEXANDER.
1902, Nov. 29. MARFELL, THOMAS HENRY.
1902, Nov. 29. MARSDEN, LEONARD.
1902, Dec. 13. MARSH, OLIVER WILLIAM.
1902, Nov. 1. MARSHALL, ROBERT.
1902, Nov. 29. MATHER, HERBERT.
1902, Nov. 29. McALLISTER, WILLIAM PRINGLE.
1902, Dec. 13. McDONALD, DONALD.
1902, Dec. 13. MEEK, RICHARD HORACE PONPARD.
1902, Nov. 29. MELLOR, SAMUEL.
1902, Nov. 29. MITCHELL, HENRY.
1902, Nov. 15. MURRAY, BERTRAM.
1902, Dec. 13. NEWMAN, BERNARD.
1902, Nov. 29. ORMEROD, GEORGE.
1902, Dec. 13. PARFITT, JOHN.
1902, Nov. 29. PARKER, EDWARD.
1902, Nov. 29. PATTISON, ARCHIBALD WATERHOUSE.
1902, Nov. 29. PEARSON, JOHN WILLIAM.
1902, Nov. 29. POOLEY, JAMES WILLIAM.
1902, Dec. 13. POVER, WM. ALFRED.
1902, Dec. 13. PRESTON, FRANK HENRY.
1902, Nov. 29. PURSER, JOHN CHARLES.
1902, Dec. 13. ROBERTS, WILLIAM HENRY.
1902, Dec. 13. ROBINSON, ERNEST SHERWOOD.
1902, Nov. 29. ROSS, GEORGE.
1902, Nov. 29. RYLANDS, FRANCIS WILLIAM.
1902, Nov. 29. SCOTT, THOMAS.
1902, Dec. 13. SEWARD, WILLIAM AUGRAVE.
1902, Nov. 29. SHAW, ARTHUR LLOYD.
1902, Nov. 29. SHILLETO, JOHN ARTHUR.
1902, Nov. 29. SLATER, ERNEST.
1902, Dec. 13. SMEARDON, JOHN.
1902, Nov. 15. SMITH, STANLEY ADDISON.
1902, Nov. 1. SMITH, WALLACE HARRY.

1902, Nov. 29. SPENCER, NORMAN SELWYN.
 1902, Nov. 29. STEVENS, ARTHUR.
 1902, Nov. 29. STEVENS, JOHN.
 1902, Nov. 1. STOKES, WILLIAM HENRY.
 1902, Dec. 13. STONES, JAMES.
 1902, Nov. 15. L STREONG, DOROTHY A.
 1902, Nov. 29. SUTCLIFFE, FRANK
 1902, Nov. 15. TAYLOB, WILLIAM HENRY.
 1902, Dec. 13. THAKE, HARRY BROWN.
 1902, Dec. 13. TURNER, ALFRED V.
 1902, Dec. 13. VOB, WALTER CULLEN.
 1902, Nov. 29. VOKES, GEORGE.
 1902, Nov. 15. WADDELL, JAMES ALEXANDER.
 1902, Nov. 15. WALKER, JOSEPH.
 1902, Nov. 1. WALTERS, JOSEPH.
 1902, Nov. 15. WATSON, HARRY.
 1902, Nov. 1. WATTS, WILLIAM JAMES.
 1902, Dec. 13. WELSH, WILLIAM.
 1902, Nov. 29. WHEATLEY, JAMES GEORGE.
 1902, Dec. 13. WHEELER, ROBERT JOHN.
 1902, Dec. 13. WHITE, ALBERT.
 1902, Nov. 29. WHITTAKER, ERNEST EDWIN.
 1902, Nov. 29. WILKINSON, HERBERT.
 1902, Nov. 29. WILSON, ARTHUR SAMUEL.
 1902, Dec. 13. L WOODWARD, LILIAN MARGARET.
 1902, Nov. 1. YORK, FREDERICK OWEN.
 1902, Nov. 29. YOUNG, CHARLES GEORGE.

Inspectors of Meat and other Foods.

1902, Dec. 20. ANTHONY, EDWARD.
 1902, Dec. 6. ASQUITH, JOSEPH WOODWORTH.
 1902, Dec. 20. BONHAM, ARTHUR ERNEST.
 1902, Dec. 20. FELL, EDWARD THOMAS.
 1902, Dec. 20. FREEMAN, ALBERT.
 1902, Dec. 6. GARBUTT, FRANCIS HOWARD.
 1902, Dec. 6. GREAVES, ALBERT EDWARD.
 1902, Dec. 20. HEATH, PHILIP ALFRED.
 1902, Dec. 20. HUDSON, FREDERICK HORACE.
 1902, Dec. 20. METTAM, HARRY.
 1902, Dec. 20. PORTMAN, WILLIAM CHARLES.
 1902, Dec. 20. POWELL, ARTHUR ERNEST.
 1902, Dec. 6. SUGDEN, WILLIAM.
 1902, Dec. 6. TAYLOR, JAMES B.
 1902, Dec. 20. WETJEN, WILLIAM GEORGE.
 1902, Dec. 20. WINGFIELD, SAMUEL WILLIAM.

Examination Questions.

Practical Sanitary Science.—Manchester, Nov. 28th and 29th, 1902.

1. What is an alkali? What is meant by an alkaline re-action?
2. Name the gases most frequently found in sewers; state which gases are injurious to the health of persons working in sewers, and which are dangerous to life.
3. How are the humidity of the atmosphere and the amount of rainfall determined, and in what terms are they usually expressed? What are the chief causes of the difference in the amount of rainfall in various parts of England and Wales?
4. Describe the construction of a dry floor for a living room upon a clay soil.

Also the construction of a reasonably sound-proof floor for an upper story.

Illustrate by sketches.

5. State briefly the composition and process of manufacture of the following materials:—

Stone lime mortar.

Lime and hair mortar.

Cement mortar.

Pressed bricks.

Blue bricks.

Terra cotta.

6. Why is lead more durable than zinc on roofs? What is the thickness of 8 lbs. lead? What thickness of lead would be used for the following purposes: soil pipes, gutters, aprons and soakers?

7. What constituents of water cause "hardness"? Explain the chemical action which takes place during the softening of hard water, and describe the Clark process?

8. Shew by sketches the drainage arrangements of a house of four stories with w.c., sink and bath on each floor. The sketches to include soil pipe drain and the disconnecting manhole with outlet to sewer.

The Candidates were examined vivâ voce on the 29th.

Practical Sanitary Science.—London, December 12th and 13th, 1902.

1. Describe the terms "oxidation" and "reduction," and give examples of oxidising and reducing agents.

2. What is meant by "diffusion of gases"? State the relation between the rate of diffusion and the density of a gas.

3. Define the terms "ground air" and "ground water." What are the objections to the entrance of ground air into dwellings, and how may it be prevented? What do you know of the relationship of ground air and ground water to disease?

4. Compare the advantages or disadvantages of a site for a private dwelling (a) on a hillside on the chalk; (b) in a valley surrounded by pine-woods; (c) in the fen district.

5. What precautions are needed in building on (a) made ground, (b) peat, (c) clay?

6. Draw a plan, section and elevation, of a warm-air ventilating fireplace to a scale of one inch to two feet, and describe its construction.

7. Describe briefly three kinds of windows fixed in a room 10 ft. high. Give a section showing the construction of one kind, and how the wall and floor over the opening is supported.

8. Contrast the relative advantages and disadvantages of stone-ware and iron drains for the drainage of domestic premises. Under what circumstances should the use of iron drains be specially recommended?

The Candidates were examined vivâ voce on the 13th.

Inspector of Nuisances.—Leicester, Oct. 31st and Nov. 1st, 1902.

1. Give the form of notice to occupier for abatement of nuisance. Describe the measures you would take before issuing such a notice, and how you would record the various steps leading up to the notice and abatement of nuisance.

2. What is a cellar-dwelling? Under what circumstances may it legally be occupied?

3. On inspecting an infant's school you learn that a number of scholars are suffering from sore throat. Draw up a short report for the Medical Officer of Health, mentioning all points you consider of importance.

4. What considerations would guide you in seizing the carcase of a cow which had suffered from

- (a) Anthrax.
- (b) Extensive tuberculosis of both lungs.
- (c) Actinomycosis of the tongue.

(5) State whether the following exist in gaseous, liquid, or solid form:—Sulphur, Chlorine, Perchloride of Mercury, Formaline Chloride of Lime, Carbolic Acid. Describe the advantages and disadvantages of each as a disinfectant, and the method of use in each case.

(6) Give directions as to the arrangements for utilizing rain water from a slate roof as a domestic supply.

(7) Describe

- (a) Plumber's wiped joint.
- (b) Copper-bit joint.
- (c) Blown joint.

Illustrate your answer by sketches of each, and state their respective advantages or disadvantages.

(8) What points should be specially considered in testing drains and soil pipes? What are the chief points to be attended to in sanitary fittings, and in laying pipes for drainage purposes from houses?

The Candidates were examined vivâ voce on Nov. 1st.

Inspector of Nuisances.—Newcastle-on-Tyne, Nov. 14th and 15th, 1902.

(1) What are the conditions generally necessary to constitute nuisances under the Public Health Acts, as distinguished from those cognisable by other Statutes and the Common Law? Illustrate your answer by examples, and mention some of the nuisances specially defined by the Public Health Act of 1875.

(2) Indicate the nature of the Contraventions of the provisions of the Canal Boats Act, 1877, and of the Regulations of the Local Government Board, made under that Act, which an Inspector has most commonly to deal with.

(3) What are the principal objections to the use of private slaughter-houses in dense urban districts? In what special ways is nuisance to the public liable to arise in connection with them? Mention the principal injunctions as to their site, structure, and surroundings contained in the Local Government Board's Memorandum to Local Authorities on the subject of slaughter-houses.

(4) In the construction of a well for household supply, what precautions are necessary to avoid pollution?

(a) By percolation through the sub-soil;

(b) By off-flow from the surface. Give sketch.

(5) Mention generally the kind of articles which may be disinfected in a steam disinfector without injury. Describe in detail each stage of the process of such disinfection, and the time required for each stage.

(6) Sketch necessary particulars for a book in which cases of notifiable diseases should be entered.

(7) Where would the water test, and the smoke (or smell) test be best employed to reveal defects in the drainage and sanitary fittings of a house.

(8) How would you propose to deal with the excreta and slop-waters in villages and isolated houses?

The Candidates were examined vivâ voce on the 15th.

Inspector of Nuisances.—Manchester, November 28th and 29th, 1902.

1. What are the chief sources of nuisances arising from the trade of a soap boiler? How may these nuisances be minimised? What powers have a Sanitary Authority to deal with these?

2. What are the points you would note in the inspection of an underground bakehouse? Give reasons for your answer.

3. A person removed a suit of clothes from a small-pox patient, and took them to the pawnshop. What steps would you, as an Inspector, take in the matter to prevent the spread of infection? Is the person liable to any punishment for acting in the way described?

4. What are the impurities in air vitiated by respiration? State their relative importance. Calculate the cubic contents in feet of a room 20 ft. square and 9 ft. 6 in. high, with a semi-circular bay window from floor to ceiling, the radius of the semi-circle being 3 ft.

5. How much water is required per day by an average adult for drinking and various domestic purposes?

6. When inspecting houses in course of erection, what matters would you specially look after to prevent insanitary materials being employed.

7. What are the principles to be kept in view in the design of a water closet apparatus? Give your reasons for the adoption or rejection of the wash-out, wash-down, and slop closet.

8. Describe (with sketches) how the junctions are made:

- (a) between a w.c. and the soil pipe;
- (b) between the soil pipe and the drain;
- (c) between the drain and the sewer.

The Candidates were examined vivâ voce on the 29th.

Inspector of Nuisances.—London, December 12th and 13th, 1902.

1. To what points would you direct your attention in the inspection of Milk Shops? Under what powers can a Sanitary Authority deal with unwholesome conditions which may be found to exist?

2. Indicate what regulations are necessary for dealing with the trade of a fellmonger.

3. Describe the appearances you would expect to find in the carcase of an animal—

- (a) drowned,
- (b) suffocated.

Explain on what grounds you would seize such carcase.

4. In a district where the well water is generally under suspicion, what enquiries would you make as to the condition of any particular well and its surroundings.

5. Under what circumstances and with what precautions may a person suffering from a dangerous infectious disease be moved in a vehicle plying for hire in the street?

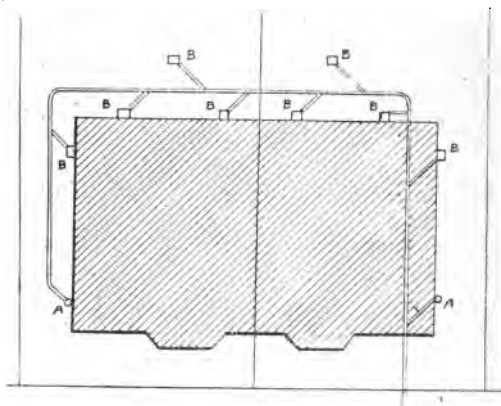
6. Give the amount of cubic space considered necessary per person

- (a) in an ordinary bedroom;
- (b) in an infectious hospital ward;
- (c) in a common lodging house;
- (d) in a prison;
- (e) in a school classroom.

What are the simplest tests for ascertaining whether a room is well ventilated or not?

7. Sketch and describe good and suitable arrangement of sanitary accommodation for a Factory where the hands employed are of both sexes.

8. Two semi-detached villas belonging to different owners are drained as indicated on this plan. The drains require to be entirely reconstructed. Make a sketch and explain how this should be done.



A—Soil-Pipes.

B—Rain-water and Surface Gullies.

The candidates were examined vivâ voce on the 13th.

Inspectors of Meat & other Foods.—Manchester, Dec. 5th & 6th, 1902.

1. What symptoms are usually present in an animal suffering from anthrax? What is the procedure with regard to such animals, and what special precautions should be adopted to prevent the spread of the disease?

2. Classify the chief diseases met with, or likely to occur, in either home-bred or imported animals, and which may be regarded as more or less rendering their flesh unfit for man's food, noting those which occur (a) in oxen and sheep, (b) in pigs, (c) in horses.

3. Describe the appearances of a normal healthy lymphatic gland, noting its size and general position in the body. What glands would you examine in the case of an ox which has been slaughtered, and which you suspect to have had tuberculosis?

4. Explain how you can distinguish between the heart, spleen, and kidneys of the horse and ox respectively.

5. What are the chief parasites found in the flesh and organs of the ox, sheep, and pig, and how may they be recognised?

6. What would be the normal temperature in horses, cattle, and sheep as indicated by a thermometer placed in the rectum? What does an increase of temperature indicate, and what symptoms are usually associated with persistent high temperatures?

7. Describe the appearances of the flesh in the carcasses of the following animals: Ram and wether, goat, horse, ox, bull and heifer calf.

8. Upon what grounds would you decide that a consignment of potatoes was unfit for food? What power has an inspector to deal with such a consignment at a railway depot?

9. You are asked to inspect and pass as fit for food the carcass of an ox which has recently been slaughtered: State in detail the method of your procedure, noting the points which call for special attention. Make your answer as complete as possible.

10. What is meant by (a) chilled meat, and (b) frozen meat? Describe the appearance of each kind, and compare them with that of home-killed meat.

The Candidates were examined vivâ voce on the 6th.

Inspectors of Meat & other Foods.—London, December 19th and 20th, 1902.

1. What are the appearances presented by the carcass of a sheep which had suffered from pleurisy? Explain what would justify you in seizing such a carcass?

2. How can you detect trichinosis in the carcass of a pig? Where would you look for the parasite?

3. How would you recognise in the carcass the sex of the animal? State how the ox differs from the cow and heifer, and the ram from the ewe? What are the chief points which would guide you in giving you an opinion as to age?

4. How would you distinguish between the liver of a sheep from that of a calf, pig, or dog?

5. Give the conditions which render the destruction of the entire carcass and all the organs of an animal affected with tuberculosis desirable, as recommended in the Report of the Royal Commission on Tuberculosis (1898)?

6. What is the close time for eels, pollen, trout, and char? What is the close time for all fresh water fish? Under what Act is this given?

7. What conditions in cows affect milk, and what diseases in man may be produced by the use of milk from diseased cows? How are these diseases usually recognised, and name the symptoms you would expect to find on examination of the animal?

8. How do Cheddar and Gloucester cheese differ from Dutch cheese? What is the average composition of cheese, and how would you judge of its condition as an article of food?

9. Why are animals intended for human food bled during the process of slaughtering? What is the condition of the carcase which has been only partially bled, or when the animal has died from suffocation or accident? Why is such meat unfit for food?

10. Describe, with sketch, the structure and drainage of a model slaughter-house.

The Candidates were examined vivâ voce on the 20th.

FORTHCOMING MEETINGS.

ORDINARY GENERAL MEETING.

The Ordinary General Meeting of the Institute has been fixed for Wednesday, March 25th, at 5 p.m.

At this Meeting the report of the Council on the work of the year 1902 will be presented, and the new Members of Council and Officers elected for the ensuing year.

SESSIONAL MEETING.

A Sessional Meeting will be held on Feb. 11th, when the discussion on "the present shortage of water available for supply," will be introduced by W. Whitaker, B.A., F.R.S., F.G.S., Assoc.M.Inst.C.E., and on March 11th when the subject of "Sewage Disposal and the Qualities Essential in a Sewage Effluent," will be introduced by George Reid, M.D., D.P.H.

In order that the advantages of these Meetings may be extended to the Members and Associates of the Institute residing in the provinces, it has been proposed that Sessional Meetings should be arranged in provincial centres. One Meeting has therefore been arranged to be held in Manchester on Feb. 7th, when the subject of "The Removal and Isolation of Infective Patients in Populous Centres" will be introduced by Meredith Young, M.D., D.P.H. The Meeting will take place in the morning, and after lunch visits have been arranged to the Isolation Hospitals of Manchester and Salford.

CONGRESS, 1903.

It has been arranged to hold the next Congress and Exhibition of the Institute in Bradford, commencing on July 7th. The Mayor of Bradford, Alderman David Wade, has kindly consented to act as Chairman of the Local Committee, and the Medical Officer of Health, W. Arnold Evans, M.D., D.P.H., as Hon. Local Secretary.

A meeting was held in Bradford Town Hall, the Mayor taking the chair, to appoint the Local Committee and Officers, &c., and to inaugurate the local arrangements.

The following Sections and Conferences will be held in connection with the Congress:—

Section I.—Sanitary Science and Preventive Medicine.

Section II.—Engineering and Architecture.

Section III.—Physics, Chemistry, and Biology.

Conferences.—

Municipal Representatives.
On Industrial Hygiene.
Medical Officers of Health.
Engineers and Surveyors to County and other Sanitary Authorities.
Veterinary Inspectors.
Sanitary Inspectors.
Ladies on Hygiene.
Hygiene of School Life.

ANNUAL DINNER.

It is proposed to hold the Annual Dinner of the Institute in the month of May. H.R.H. The Duke of Cambridge has graciously expressed his intention of presiding. Further particulars will be published in the next Journal.

LECTURES TO SANITARY OFFICERS.

The Thirty-fifth Course of Lectures and Demonstrations to Sanitary Officers commenced on Monday, February 2nd. The dates and subjects of the thirty-two Lectures and the several outside demonstrations are set out in the Calendar in the following pages. The Lectures are arranged to include the subjects scheduled for the Examination for Inspector of Nuisances held by the Institute.

PRACTICAL TRAINING FOR MEAT INSPECTORS

for candidates preparing for the Examination for Inspectors of Meat and other Foods, conducted by The Sanitary Institute.

The Third Course will commence on Friday, February 20th, at 7.30 p.m., and will consist of systematic Practical Training in the inspection of meat at a Cattle Market, including Demonstration on live cattle and sheep, slaughtering and dressing of animals, names and situations of the organs, diseases of animals, methods of stalling, arrangement of markets and byres, etc.

Demonstration will also be arranged at a knackers' yard, where instruction regarding the flesh and organs of the horse will be given.

The Course will continue for two months.

Demonstrations will be given at the Institute on Friday evenings and at a Market on Saturday afternoons.

In addition to the practical training at a Market the Course will include Lectures given in the Parkes Museum.

APPLIED HYGIENE FOR SCHOOL TEACHERS.

The third course will consist of twenty-one lectures, given on Saturday mornings throughout the three terms of the year 1903, and will be held partly at Bedford College for Women and partly at The Sanitary Institute; it will include practical demonstrations, and visits to schools and places where the application of hygiene in practice may be seen. The various subjects—Sanitation of Schools, Physiology for Teachers, Psychological Attitude of Mind towards the Study of Childhood, will be dealt with by well-known authorities, and will be illustrated by experiments, diagrams, drawings, models, and lantern slides. Opportunities will be given to students to obtain practical acquaintance with the various subjects dealt with, in the Laboratories of Bedford College, and for Practical demonstration of Sanitary Appliances in the Parkes Museum.

The course affords a preparation which The Sanitary Institute regards as suitable for the examination held by them for their Certificate in Practical Hygiene for School Teachers.

The course is open to women students over 19 years of age who hold either a Teacher's Diploma or Certificate, or have had at least two years' experience in teaching in a secondary school, or who can produce satisfactory evidence that they will be able to benefit by the instruction afforded them.

Members and Associates of the Institute are admitted at half fees.

EXAMINATIONS.

The following Examinations have been arranged during January, February, and March:—

Inspectors of Nuisances under the Public Health Act, 1875.—

Plymouth, February 13th and 14th.

Edinburgh, March 6th and 7th.

Practical Sanitary Science.—Plymouth, February 13th and 14th.

Edinburgh, March 6th and 7th.

Practical Hygiene for School Teachers.—London, January 30th and 31st.

Inspectors of Meat and other Foods.—Edinburgh, March 13th and 14th.

CALENDAR, JANUARY TO APRIL, 1903.

As far as at present arranged.

Council Meetings are held Monthly on the Second Wednesday in each Month at 5 p.m.

Exhibition Committee . . .) Monday in the week preceding the
Congress and Editing Committee) Council, at 4.30 p.m. & 5.30 p.m.

Museum and Library Committee Tuesday in the week preceding the
Council, at 5 p.m.

Special Purposes Committee . . .) Wednesday in the week preceding
Finance Committee . . .) the Council, at 4 p.m. and 5 p.m.

Examination Committee . . . Fourth Thursday in January, April,
October, 5 p.m.

Parliamentary Committee . . .)
Meat Inspectors Examination) As occasion requires.
Committee . . .)

The Parkes Museum is open free, on Mondays 10 a.m. to 8 p.m., other days 10 a.m. to 6 p.m. The Library is closed at 2 p.m. on Saturday.

Council and Committee Meetings are suspended during August and Sept., and the Museum and Library are closed on public holidays.

JANUARY.

21 W. Conference on Applied Hygiene for School Teachers, at Bedford College at 5.30 p.m.

24 S. Lecture to School Teachers at Bedford College, by W. H. Willcox, M.D., D.P.H., at 10.30 a.m., on the General Structure and Arrangement of the Body.

30 F. } Examination in Practical Hygiene for School Teachers.
31 S. }

31 S. Lecture to School Teachers at Bedford College, by W. H. Willcox, M.D., D.P.H., on The Circulatory System; Digestive System; Food.

FEBRUARY.

2 M. Lecture to Sanitary Officers at 7 p.m. Mechanical Physics: Laws of Motion, Hydraulics, &c., by E. J. Steegmann, M.B., M.R.C.S., D.P.H.

4 W. Lecture to Sanitary Officers at 7 p.m. Natural Forces, Light, Heat, Electricity, Chemistry, by E. J. Steegmann, M.B., M.R.C.S., D.P.H.

6 F. Lecture to Sanitary Officers at 7 p.m. The Atmosphere; Pressure and Combustion; Air; Combustion and Respiration, by E. J. Steegmann, M.B., M.R.C.S., D.P.H.

7 S. Sessional Meeting at Manchester, in the Municipal School of Technology, at 11 a.m. Discussion on the Removal and Isolation of Infective Patients in Populous Districts, to be opened by Meredith Young, M.D., D.P.H., M.O.H., Stockport.

7 S. Lecture to School Teachers at Bedford College, by W. H. Willcox, M.D., D.P.H., at 10.30 a.m. Respiratory System; Principles of Ventilation.

- 7 S. Inspection and Demonstration at the Lambeth Disinfecting Station, Wanless Road, Loughborough Junction, at 3 p.m.
- 9 M. Lecture to Sanitary Officers at 7 p.m. Meteorology, by E. J. Steegmann, M.B., M.R.C.S., D.P.H.
- 11 W. Inspection and Demonstration in the District of Islington and at the Borough Disinfecting Station at 2 p.m. (number limited), conducted by James R. Leggatt, Superintendent, Public Health Department, Borough of Islington.
- 11 W. **Sessional Meeting, 8 p.m.** Discussion on Present Shortage of Water Available for Supply, to be opened by W. Whitaker, B.A., F.R.S., F.G.S., ASSOC.M.INST.C.E. The Chair will be taken by Sir Alexander Binnie, M.INST.C.E.
- 12 Th. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, A: Introductory Remarks. Public Health Acts—English, Scotch, Irish; other Statutes relating to Public Health; By-Laws (Model, &c.), Regulations, Orders, Memoranda, &c., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 13 F. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, B: Public Health (London) Act; Metropolis Local Management Acts; By-Laws and Regulations in Force in the Administrative County of London, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 13 F. } Examination in Practical Sanitary Science and for Inspectors of
- 14 S. } Nuisances, at Plymouth.
- 14 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on Secretions and Excretions; Clothings.
- 14 S. Inspection—Demonstrating the Sanitary Arrangements of a School Building, at 3 p.m.
- 16 M. Lecture to Sanitary Officers at 7 p.m. Sanitary Law, C: Factory and Workshop Acts (including Bakehouse Legislation. 1878-1895), as they affect the Sanitary Inspector: Smoke Legislation. Food and Drugs Act, 1899, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 18 W. Inspection and Demonstration at L.C.C. Common Lodging House, Parker Street, Drury Lane, W.C., at 3 p.m.
- 18 W. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, A: Outdoor, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 20 F. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—General, B: Indoor, by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 20 F. Demonstration—Meat Inspectors' Course.
- 21 S. Lecture to School Teachers at Bedford College at 10.30 a.m., by W. Willcox, M.D., D.P.H., on The Muscular System; Exercise; Play.
- 21 S. Inspection and Demonstration at Hampton Sewage Disposal Works, at 3 p.m., conducted by S. H. Chambers, Surveyor to District Council.
- 24 T. Lecture to Sanitary Officers at 7 p.m. Duties of a Sanitary Inspector—C: Offensive Trade Nuisances, &c., by J. Priestley, B.A., M.D., M.R.C.S., D.P.H.
- 25 W. Inspection and Demonstration at Disinfecting Station and Shelter, Lots Road, Chelsea, at 2 p.m., conducted by L. C. Parkes, M.D., D.P.H., Medical Officer of Health, Chelsea.
- 25 W. Lecture to Sanitary Officers at 7 p.m. Infectious Diseases, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 26 Th. Lecture to Sanitary Officers at 7 p.m. Methods of Disinfection, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
- 27 F. Lecture to Sanitary Officers at 7 p.m. Vital Statistics, by Henry R. Kenwood, M.B., D.P.H., F.C.S.
- 28 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on The Nervous System; Brain Development.
- 28 S. Inspection and Demonstration at the Sewage Works, Sutton, Surrey, at 3 p.m., conducted by C. Chambers Smith, Town Surveyor.
- 28 S. Demonstration—Meat Inspectors' Course.

MARCH.

- 2 M. Lecture to Sanitary Officers at 7 p.m. Water; Composition, Pollution and Purification, by A. Wellesley Harris, M.R.C.S., D.P.H.
- 3 T. Demonstration of Book-keeping as carried out in a Sanitary Inspector's Office, in the Parkes Museum at 7 p.m., by James R. Leggatt, Superintendent, Public Health Dept., Borough of Islington.
- 4 W. Inspection and Demonstration at East London Soap Works, Bow at 3 p.m.
- 4 W. Lecture to Sanitary Officers at 7 p.m. Details of Plumbers' Work by J. Wright Clarke.
- 6 F. Lecture to Sanitary Officers at 7 p.m. Calculations, Measurements and Plans and Sections, by W. C. Tyndale, M.INST.C.E.
- 6 F. Demonstration—Meat Inspectors' Course.
- 6 F. } Examination in Practical Sanitary Science and for Inspectors of
- 7 S. } Nuisances, at Edinburgh.
- 7 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on General Diseases and Conditions incidental to School Life; their Causes and Effects.
- 7 S. Inspection and Demonstration at Morden Hall Dairy Farm, Morden, Surrey, at 3 p.m., conducted by Oscar J. White.
- 9 M. Lecture to Sanitary Officers at 7 p.m. Building Materials, by Prof. R. Elsey Smith, A.R.I.B.A.
- 10 T. Lecture to Sanitary Officers at 7 p.m. Sanitary Building Construction and Planning; Soil and Local Physical Conditions, by Prof. R. Elsey Smith, A.R.I.B.A.
- 11 W. Inspection and Demonstration in the District of Islington, and at the Borough Disinfecting Station, at 2 p.m. (number limited), conducted by James R. Leggatt, Superintendent, Public Health Department, Borough of Islington.
- 11 W. Sessional Meeting, 8 p.m. Discussion on Sewage Disposal, and the qualities essential in a Sewage Effluent, to be opened by George Reid, M.D., D.P.H., M.O.H., Staffordshire C.C.
- 12 Th. Lecture to Sanitary Officers at 7 p.m. Ventilation, Warming, and Lighting, by Prof. R. Elsey Smith, A.R.I.B.A.
- 13 F. } Examination for Inspectors of Meat and other Foods, at Edinburgh.
- 14 S. }
- 14 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on Infectious Diseases; their Nature, History, and Means of Prevention: Tuberculosis, Diphtheria, Scarlet Fever.
- 14 S. Inspection and Demonstration at the Sewage and Destructor Works, Ealing, at 2.15 p.m., conducted by Chas. Jones, M.INST.C.E., Borough Engineer and Surveyor.
- 14 S. Demonstration—Meat Inspectors' Course.
- 16 M. Lecture to Sanitary Officers at 7 p.m. Sanitary Appliances, by Gerard J. G. Jensen.
- 18 W. Inspection and Demonstration at the East London Waterworks, Lea Bridge, Clapton, at 3 p.m., conducted by W. B. Bryan, M.INST.C.E.
- 18 W. Lecture to Sanitary Officers at 7 p.m. House Drainage, by Gerard J. G. Jensen.
- 20 F. Lecture to Sanitary Officers at 7 p.m. Water Supply, Source of Supply, and Distribution, by Jno. Ed. Worth, M.INST.C.E.
- 20 F. Demonstration—Meat Inspectors' Course.
- 21 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on Infectious Diseases: Chicken-pox, Measles, Whooping-cough, Mumps, Ophthalmia, Small-pox, &c.
- 21 S. Inspection and Demonstration at South Norwood Sewage Irrigation Farm, at 3 p.m., conducted by Thomas Walker, M.INST.C.E., Borough Engineer, Croydon.
- 23 M. Lecture to Sanitary Officers at 7 p.m. Sewerage, by Jno. Ed. Worth, M.INST.C.E.

- 25 W. **Ordinary General Meeting, 5 p.m.**
- 25 W. Lecture to Sanitary Officers, at 7 p.m. Sewage Disposal, by Jno. Ed. Worth, M.INST.C.E.
- 27 F. Lecture to Sanitary Officers at 7 p.m. Scavenging, Disposal of House Refuse, by Jno. Ed. Worth, M.INST.C.E.
- 28 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on Infectious Diseases: Laws thereon; Duties of School Teachers.
- 28 S. Inspection and Demonstration at the Sewage Outfall Works, Barking, at about 3 p.m., conducted by Jno. Ed. Worth, M.INST.C.E., District Engineer, London County Council.
- 28 S. Demonstration—Meat Inspectors' Course.
- 30 M. Lecture to Sanitary Officers at 7 p.m. Signs of Health and Disease in Animals destined for Food, when alive and after slaughter. Tuberculin and other Tests, by W. Hunting, F.R.C.V.S.

APRIL.

- 1 W. Lecture to Sanitary Officers at 7 p.m. The Names and Situations of the Organs of the Body in Animals, by W. Hunting, F.R.C.V.S.
- 1 W. Inspection and Demonstration at Harrison and Barber's Knackers' Yard, Winthrop Street, Whitechapel, E., at 3 p.m., conducted by H. King Shaw.
- 2 Th. Demonstration—Meat Inspectors' Course.
- 3 F. Lecture to Sanitary Officers at 7 p.m. Practical Methods of Stalling and Slaughtering Animals, by W. Hunting, F.R.C.V.S.
- 3 F. } Examination in Practical Sanitary Science and for Inspectors of
- 4 S. } Nuisances, at Birmingham.
- 4 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on School Accidents.
- 6 M. Lecture to Sanitary Officers at 7 p.m. Diseased Meat, with a Demonstration of Morbid Specimens collected from Meat Markets, by James King, M.R.C.V.S.
- 7 T. Lecture to Sanitary Officers at 7 p.m. The Appearance and Character of Fresh Meat, Organs, Fat, Blood, Fish, Poultry, Milk, Fruit, Vegetables, and other Food, and the conditions rendering them, or preparations of them, fit or unfit for human consumption. Preserving and Storing Meat and other Foods, by E. Petronell Manby, B.A., M.D., D.P.H.
- 8 W. Inspection and Demonstration at the Metropolitan Cattle Market, York Road, N., at 3 p.m., conducted by James King, M.R.C.V.S., Veterinary Inspector, Metropolitan Cattle Market.
- 10 F. **Good Friday.** } Museum Closed.
- 13 M. **Bank Holiday.** }
- 17 F. Demonstration—Meat Inspectors' Course.
- 18 S. Lecture to School Teachers at Bedford College, at 10.30 a.m., by W. H. Willcox, M.D., D.P.H., on Disinfection and Disinfectants.
- 20 M. Lecture to Sanitary Officers at 7 p.m. Hygiene of Byres, Lairs, Cowsheds, and Slaughter-houses, and all places where Animals destined for the supply of food are kept; and the Hygiene of Markets, Dairies, and other places where food is stored, prepared, or exposed for Sale and transported, by E. Petronell Manby, B.A., M.D., D.P.H.
- 22 W. **Sessional Meeting, 8 p.m.**
- 24 F. Lecture to Sanitary Officers at 7 p.m. The Laws, By-Laws, and Regulations affecting the Inspection and Sale of Meat and other articles of food, including their preparation and adulteration, by E. Petronell Manby, B.A., M.D., D.P.H.
- 25 S. Demonstration—Meat Inspectors' Course.

FELLOW, MEMBERS, AND ASSOCIATES

ELECTED OCTOBER—DECEMBER, 1902.

FELLOWS.

Reg. No.	Date of Election.	
1596	1902. Nov.	FOWLER, Alfred Mountain, M.INST.C.E., F.S.I., 1, <i>St Peter's Square, Manchester.</i>

MEMBERS.

* Passed Examination in Practical Sanitary Science.

† Passed Examination for Inspector of Nuisances.

1596	1902. Nov.	ADDISCOTT, Richard John, 64, <i>Greenbank Avenue, Plymouth.</i>
1597	1902. Nov.	ANDERSON, H. E., <i>Assistant Surveyor, Town Hall, Kennington Green. (Cert. M. & C.E.)</i>
1621	1902. Dec.	BADCOCK, Hugh Daniel, ASSOC.M.INST.C.E., <i>Pretoria, Transvaal Colony. (City Engineer.)</i>
1598	1902. Nov.	BINNIE, Sir Alexander, M.INST.C.E., 9, <i>Great George Street, S.W.</i>
1599	1902. Nov.	BRUCE, John Lechy, <i>Technical College, Sydney. (Examiner for the Institute in Sydney.)</i>
1622	1902. Dec.	CARDEN, Robert Walter, A.R.I.B.A., (<i>Architect and Surveyor</i>), 15, <i>Via Vittorio Emanuele, San Remo, Italy.</i>
1623	1902. Dec.	CHALMERS, Archibald Kew, M.D., D.P.H., <i>Medical Officer of Health, Glasgow, Lanark.</i>
1600	1902. Nov.	CRICHTON-BROWNE, Sir James, LL.D., M.D., F.R.S., <i>Physician, Lord Chancellor's Visitor in Lunacy, 61, Carlisle Place Mansions, Victoria, S.W.</i>
1601	1902. Nov.	CROWLEY, Ralph H., M.D.LOND., M.B.C.P., <i>Medical Officer of Health, Bradford School Board, 116, Manningham Lane, Bradford.</i>
1602	1902. Nov.	*CASEY, Mark Patrick, <i>District Engineer, Public Works Department, Burma.</i>
1603	1902. Nov.	COLLIE, Robert John, M.D., 25, <i>Porchester Terrace. (Assistant Medical Officer to School Board.)</i>
1624	1902. Dec.	DALEY, William, M.R.C.S., D.P.H., <i>Assistant Medical Officer of Health, Town Hall, Bootle.</i>
1604	1902. Nov.	DICK, Robert, M.B., CH.M., D.P.H., <i>Medical Officer of Health, Hunter Combined Districts, Waratah, N.S.W. (Examiner for the Institute in Sydney.)</i>

- 1625 1902. Dec. FREMANTLE, Francis G., M.A., M.B., B.CH., M.R.C.P., D.P.H. (*Medical Officer of Health, Hertford C.C.*), *The College, Guy's Hospital, S.E.*
- 1626 1902. Dec. FOX-SIMONS, Robert, M.R.C.S., L.R.C.P., D.P.H., J.P. (*Medical Officer of Health*), *Pretoria, Transvaal Colony.*
- 1609 1902. Nov. GALBRAITH, A. R., ASSOC. M. INST. C.E. *The Town Hall, Portsmouth.*
- 1594 1902. Oct. *HAIGH, Tom Vickerman, 14, *Ruthin Road, Westcombe Park, Blackheath, S.E.*
- 1610 1902. Nov. HALL, Edward, *Borough Surveyor, Carnarvon.* (*Assisted the Judges on many occasions as Testing Assistant.*)
- 1595 1902. Oct. HOENNISJEE, Sorab Cowasjee, M.D., D.P.H., M.R.C.S., L.R.C.P., 168, *Dadar Road, Bombay, India.*
- 1611 1902. Nov. KIRKBY, Reginald Guy, A.R.I.B.A., c/o *Stott & Kirkby, Architects, Timber Street, Pietermaritzburg, Natal.*
- 1604 1902. Nov. LAILEY, Henry George Nicholson, *Town Hall, Trowbridge. (Town Surveyor.)*
- 1605 1902. Nov. *LISTER, Reginald William, 10, *Beaconsfield Street, Leamington.*
- 1606 1902. Nov. ^SMORRIS, Evelyn Margaret, 6, *Chantry Road, Clifton, Bristol.*
- 1627 1902. Dec. PARISH, Charles Edward, M.A., M. INST. M.E., (*Consulting Engineer*), 4, *Park Road, Harlesden, N.W.*
- 1628 1902. Dec. PERKINS, Herbert Samuel (*Civil Engineer*), *Engineer's Office, Drainage Dept., 36, Burg Street, Cape Town.*
- 1629 1902. Dec. PROCTER, George Woodyatt, M.B., M.R.C.S., L.R.C.P., (*Assistant to Medical Officer of Health*), *Bagthorpe Isolation Hospital, Basford, Nottingham.*
- 1612 1902. Nov. PRYCE-JONES, J. Trevor, c/o *Messrs. S. Pearson & Son, Coatzacoalcas, Mexico.*
- 1607 1902. Nov. QUINE, Richard Henry, L.R.C.P., *West Nook, Sandy Grove, Pendleton, Manchester.*
- 1630 1902. Dec. RHIND, Thomas, M.R.C.S., L.R.C.P., D.P.H., 69, *Gloucester Road, London, N.W.*
- 1613 1902. Nov. *SLOAN, Thomas M., *Shanlieve, Ballygdmartin Road, Belfast.*
- 1631 1902. Dec. STARKEY, T. A., D.P.H., M.B., M.R.C.S., L.R.C.P., *Hartford, Cheshire.*
- 1615 1902. Nov. STEPHENSON, Frederick, L.R.C.P., *Medical Officer of Health, Springfield, Prestwich.*
- 1616 1902. Nov. STOVEN, Cornelius Frederick, M.A., D.P.H., *Medical Officer of Health, Ilford.*
- 1614 1902. Nov. SUTCLIFFE, John, 44, *Appach Road, Brixton Hill, S.W. (Assistant Surveyor, Lambeth.)*
- 1617 1902. Nov. TOWNER, Harry Venus, *Civil Engineer, Singapore.* (*Cert. M. & C.E.*)

- 1618 1902. Nov. VINTER, Sydney Garratt, M.R.C.S.ENG., L.R.C.P.LOND.,
Udal Garth, Tor Point, Devonport.
- 1619 1902. Nov. WEAVER, Henry James, F.G.S., *Borough Engineer,
King's Lynn.*
- 1630 1902. Nov. WILDING, James, *Surveyor and Engineer, Urban
District Council, Runcorn.*
- 1632 1902. Dec. WILLOUGHBY, Percival Robert Augustus, ASSOC.M.
INST.C.E., *Engineer and Surveyor, Council Offices,
Pontypridd, Glam.*
- 1593 1902. Oct. *WOODHOUSE, Charles Worth, *c/o Boots, Cash
Chemists, Station Street, Nottingham.*

ASSOCIATES.

† Passed Examination for Inspectors of Nuisances.

- 2619 1902. Nov. †ABBOTT, John Hopkins, *Old Malton, Yorkshire.*
- 2664 1902. Nov. †ABSON, Thomas Reed, *Hope Terrace, Stockbridge,
Yorks.*
- 2665 1902. Nov. †ANDERSON, William Fenton, 126, *Sandy Bank,
Haulgh, Bolton, Lancs.*
- 2622 1902. Oct. †ARMITAGE, Percy, 1, *Swadford Street, Skipton.*
- 2716 1902. Dec. †BAKER, Miss Frances A., 3, *Upper Gloucester Place,
N.W. (Sanitary Inspector (Cert. San. Insp. Exam.
Bd.), Marylebone),*
- 2651 1902. Nov. †BARBER, Frederick William, *Harris Street, Gran-
ville, Cumberland, N.S.W.*
- 2666 1902. Nov. †BARNES, Alfred, 16, *Peel Lane, Astley, near Man-
chester, Lancs.*
- 2667 1902. Nov. †BELL, Thomas George Hartley, *Manston Cottage,
Spring Road, Sholing, Southampton.*
- 2652 1902. Nov. †BELL, William, 67, *Hardecasile Street, Stockport,
Cheshire.*
- 2715 1902. Nov. †BEMISTER, F., *Sanitary Inspector, Elandsfontein,
S. Africa.*
- 2668 1902. Nov. †BENTLEY, William Henry T., 25, *Concord Street,
North Street, Leeds.*
- 2653 1902. Nov. †BETHELL, Miss Gertrude Agnes, 65, *Premier Street,
Liverpool.*
- 2650 1902. Nov. †BLYTHE, Robert.
- 2623 1902. Oct. †BROOK, John Woolford, 365, *High Street North,
East Ham, E.*
- 2722 1902. Dec. †BROOMFIELD, Robert Henry, *Field Terrace, Ramsey,
Hunts.*
- 2624 1902. Oct. †BURTON, Duncan McLean, 24, *Barnsley Road,
Wombwell, near Barnsley.*
- 2669 1902. Nov. †CARLTON, Charles, 32, *Hyde Park Road, Halifax.*
- 2670 1902. Nov. †CHESTERFIELD, Alfred Watkins, 3, *Poplar Grove,
Northumberland Avenue, Hull.*

- 2485 1902. Nov. ‡CLARKE, Ernest Charles, 3, *Alpha Buildings, Boulevard, Weston-super-Mare.*
- 2654 1902. Nov. ‡CLARKE, James, *The Gatleys, Astley, near Manchester, Lancs.*
- 2686 1902. Nov. ‡COOMBE, Maurice, 10, *Lennard Street, Newport.*
- 2687 1902. Nov. ‡COUX, John Armstrong, *Willcock House, Marlborough Road, High Town, Manchester.*
- 2625 1902. Oct. ‡CRESSWICK, Ernest, 47, *Wellington Street, Waterloo, N.S.W.*
- 2641 1902. Oct. ‡CUTHBERTSON, William McD., 58, *Great Junction Street, Leith.*
- 2655 1902. Nov. ‡DAVIES, David Benjamin, 3, *Station Terrace, Dowlais, Glamorgan.*
- 2688 1902. Nov. ‡DAVIES, John, 12, *Queen Street, Cwmdare, Aberdare.*
- 2656 1902. Nov. ‡DAVIES, Miss Mary Elizabeth, 100, *Boleyn Road, Kingsland, N.E.*
- 2689 1902. Nov. DEE, Thomas William, 15, *Bessborough Street, Westminster, S.W. (Cert. San. Insp. Exam. Board).*
- 2626 1902. Oct. DEWEY, Albert Edward, 19, *Broomhouse Road, Fulham, S.W. (Cert. San. Insp. Exam. Board.)*
- 2671 1802. Nov. ‡DIXON, James Parkinson, 169, *London Road, Blackburn.*
- 2672 1902. Nov. ‡DOUGLAS, Sholto, *Surveyor's Office, Aldershot.*
- 2673 1902. Nov. ‡DUNCAN, Albert Edward, 84, *Brynn Street, St. Helens.*
- 2674 1902. Nov. ‡DUTTON, James Baxter, 74, *Mather Lane, Leigh, Lancs.*
- 2675 1902. Nov. ‡ELSTON, Arthur, 16, *Daniel Hill, Upperthorpe, Sheffield.*
- 2627 1902. Oct. ‡FLETCHER, Joseph, 95, *Hornby Street, Bury.*
- 2628 1902. Oct. ‡FIRMAN, John Henry, 60, *Prince Albert Street, Oldham.*
- 2629 1902. Oct. ‡FLINT, Alfred, *Ashburn House, St. James Road, Bexhill-on-Sea.*
- 2676 1902. Nov. ‡FRANKLIN, Robert Henry, 97, *Harehills Lane, Leeds.*
- 2717 1902. Dec. ‡FRYER, Henry Newton (Surveyor), 10, *London Rd., Grays, Essex.*
- 2612 1902. Oct. ‡GILBY, Herbert, 37, *Parliament Road, Armley, Leeds.*
- 2718 1902. Dec. ‡GREAVES, Albert Edward (Inspector), *The Abattoir, Blackburn.*
- 2630 1902. Oct. ‡HADFIELD, John B., *Borough Surveyor's Department, Chesterfield.*
- 2631 1902. Oct. ‡HARDY, Sylvester, 62, *Royd Street, Little Horton, Bradford.*
- 2632 1902. Oct. HEATH, Philip Alfred, 38, *Agamemnon Road, West Hampstead. (Cert. San. Insp. Exam. Board.)*
- 2680 1902. Nov. ‡HEAVISIDE, Catherine Mary, 113, *Ham Park Road, Forest Gate, E.*

- 2719 1902. Dec. ‡HEDGES, Frank Russell, 78, *High Street, Aylesbury.*
- 2633 1902. Oct. ‡HITCHEN, Ernest, 105, *Warley Road, West End, Halifax.*
- 2691 1902. Nov. ‡HOBSON, Clement Edward, 121, *Hanzett Road, Southsea, Portsmouth, Hants.*
- 2720 1902. Dec. ‡HOLDEN, Bernard Joseph Grattan, 10, *Clifden Road, Brentford, W.*
- 2692 1902. Nov. ‡HOSKINS, George Albert, *Town Hall, Lower Road, Rotherhithe, S.E.*
- 2693 1902. Nov. ‡HOUGH, William Edward, 99, *Greenway Road, Runcorn, Chester.*
- 2677 1902. Nov. ‡HUNT, Wilfrid John Lacy, 2, *Varna Road, Southampton.*
- 2678 1902. Nov. ‡HURST, James, 36, *High Street, Southampton.*
- 2684 1902. Nov. ‡JACKSON, Richard, 7, *Carrington Road, Flixton, Manchester.*
- 2687 1902. Nov. ‡JAMES, William Owen, 37, *Briton Ferry Road, Neath, Glam.*
- 2721 1902. Dec. ‡JONES, Edwin W. (*Inspector*), 70, *Manor Road, Hastings.*
- 2695 1902. Nov. ‡JONES, Thomas, *Hengoed, near Cardiff.*
- 2696 1902. Nov. ‡KAY, Vincent Ashfield, 13, *Chatham Road, Rock Ferry, Birkenhead.*
- 2688 1902. Nov. ‡LANDEN, James, 29, *Fortess Road, Kentish Town, N.W.*
- 2634 1902. Oct. ‡LANGLEY, Frank, *Assistant Borough Surveyor, Brighthouse.*
- 2697 1902. Nov. ‡LEWIS, John, Jun., 147, *Victoria Road, Seacombe, Cheshire.*
- 2679 1902. Nov. ‡LITTLEFAIR, James, *Main Street, Bentham, York.*
- 2698 1902. Nov. ‡LOVIBOND, Florence N. F., 2, *King Street South, Rochdale, Lancs.*
- 2723 1902. Dec. ‡MACDONALD, John, *Bryn Cottage, Penmaen R.S.O., Glam.*
- 2700 1902. Nov. ‡MARSTON, William, 9, *Sugar Street, Otley, Yorks.*
- 2643 1902. Oct. ‡MASTERS, William Henry, 58, *Percy Road, Shepherd's Bush, W.*
- 2680 1902. Nov. ‡MAWDSLEY, Arthur, *Taunton Bank, Ashton-under-Lyne, Lancs.*
- 2699 1902. Nov. ‡MCKNIGHT, John Kermode, 64, *Eskrick Street, Bolton, Lancs.*
- 2645 1902. Oct. ‡MIDDLETON, Ernest, *Sanitary Inspector, Nelson, New Zealand.*
- 2724 1902. Dec. ‡MORGAN, John James, 25, *Patrick Street, Cardiff.*
- 2701 1902. Nov. ‡MORGAN, William, 13, *Carmarthen Road, Swansea.*
- 2644 1902. Oct. ‡MOSS, Miss Alice Emily, 698, *Coventry Road, Birmingham.*
- 2702 1902. Nov. ‡MOUNTJOY, Frank Ernest, *Bradiford, Barnstaple, Kent.*

- 2659 1902. Nov. ‡NICHOLS, Alfred Charles, 28, *Argyle Road, West Ealing.*
- 2655 1902. Oct. ‡NIXON, Ernest Edward, *High Street, Kenilworth.*
- 2656 1902. Oct. ‡NOBLE, George Harold, *Rosemont, The Lanes, Pudsey.*
- 2727 1902. Dec. ‡PARKER, Richard, *Surveyor, &c., Farsley, near Leeds.*
- 2703 1902. Nov. ‡PARRY, William Evan, 21, *Bedford Road, Bootle, Liverpool.*
- 2704 1902. Nov. ‡PARTINGTON, Thomas, 136, *Market Street, Droylesden, near Manchester.*
- 2705 1902. Nov. ‡PIKE, Percival William, *Tegid House, Rhayader, Radnorshire, Wales.*
- 2660 1902. Nov. ‡POWELL, Guy Matson Everitt, 17, *Toronto Road, Ilford, Essex.*
- 2637 1902. Oct. ‡PROTHEROE, Sidney, *Breinton Road, Hereford.*
- 2691 1902. Nov. ‡PUGH, Samuel Allen, 3, *Meadow Row, Bryn, near Port Talbot, Glam.*
- 2708 1902. Nov. ‡ROTHWELL, Annie, 168, *Frederick Street, Werneth, Oldham, Lancs.*
- 2707 1902. Nov. ‡ROUGH, Charles Frederick, 29, *Carnarvon Road Redland, Bristol.*
- 2638 1902. Oct. ‡SCHMIDT, Albert Edward, 195, *Amberley Street, Bradford.*
- ‡SIDEBOTTOM, P. K.
- 2661 1902. Nov. ‡SMALL, Horatio, *Weymouth House, High Street, Queenborough, Kent.*
- 2708 1902. Nov. ‡SMITH, Florence A., 4, *Peru Street, Broughton, Manchester, Lancs.*
- 2639 1902. Oct. ‡SMITH, William Thomas, 8, *Poplar Road, Ramsgate.*
- 2709 1902. Nov. ‡STUBBS, James, 45, *Chapel Street, St. Helens, Lancs.*
- 2710 1902. Nov. ‡SYKES, Francis, *Manor House, Walkham Cross, Herts.*
- 2682 1902. Nov. ‡TAYLOR, Frederick Charles, *Risbridge Workhouse, near Haverhill, Suffolk.*
- 2711 1902. Nov. ‡THOMAS, Frederick Bartle, 6, *Llwnywypia Road, Rhodda Valley, Glam.*
- 2645 1902. Oct. ‡THOMAS, James, *Gwili Villa, Campbell Terrace, Mountain Ash.*
- 2646 1902. Oct. ‡THOMPSON, George Sheraton, *Sedgefield, Durham.*
- 2647 1902. Oct. ‡THOMPSON, Harold Stephenson, 29, *Somerset Street, Hessle Road, Hull.*
- 2712 1902. Nov. ‡TROW, Samuel, *Sanitary Inspector, Otley, York.*
- 2725 1902. Dec. ‡WAITHMAN, Charles Harold, *Sanitary Department, Council Offices, Kingswood, Bristol.*
- 2728 1902. Dec. ‡WALL, Arthur (*Sanitary Inspector*), 179, *Washington Street, Bradford.*
- 2713 1902. Nov. ‡WALTON, James Edward, 358, *Psalter Lane, Ecclehall, Sheffield, Yorks.*

- 2728 1902. Dec. †WATTS, William James, *Wollaston, Northamptonshire.*
 2682 1902. Nov. †WHITCOMBE, William Henry, 47, *Thomas Street, Miskin, Mountain Ash, Glam.*
 2714 1902. Nov. †WILLIAMS, Daniel, 6, *Gethin Street, Abercanaid, Merthyr Tydvil.*
 2883 1902. Nov. †WILLIAMS, David, *Glasfryn, Bethania, Blaenau Festiniog.*
 2684 1902. Nov. †WILSON, George, 10, *Palace Street, Bury, Lancs.*
 2688 1902. Nov. †WRIGHT, Henry T., *Myrtle Cottage, Sutton Road, Newport.*
 2840 1902. Oct. †YATES, Harold, 10, *Cook Street, Bury.*

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- Fox, G. H., A.M., M.D.** *A Practical Treatise on Small Pox, illustrated by Coloured Photographs from Life.* In Two Parts. F. B. Lippincott & Co. New York.
- Garnault, Paul, Le Professeur.** *Koch et le Peril de la Tuberculose Bovine.* Paris: Institut International de Bibliographie.
- Gibson, J. A.** *The Nordrach Treatment for Consumptives in this country.* London: Sampson, Low, Marston & Co.
- Haworth, C. I., L.L.B.** *The Discharge of Trade Effluents into Sewers.* Wakefield: Blackburn, Wright & Co., Ltd.
- Henderson, R.** *The Modern Homestead, its Arrangement and Construction.* London: The County Gentleman's Association, Ltd.
- Knopf, S. A., M.D.** *Tuberculosis as a Disease of the Masses, and How to Combat it.* London: Rebman, Ltd.
- Middleton, R.E., M.Inst.C.E., Chadwick, O., C.M.G., M.Inst.C.E., and Boyle, Colonel J. Du T., late R.E.** *A Treatise on Surveying.* London: E. & F. N. Spon.
- Mitchell, C. F.** *Building Construction and Drawing, First Stage or Elementary Course, 6th Edition, thoroughly revised.* London: B. T. Batsford.
- Petit, Dr., and Borne, G.** *Manual Pratique de Bactériologie, Urologie, Anatomie, Pathologique.* Paris: C. Naud.
- Reeson, J.** *The Act relating to the Supply of Gas and Water by Companies and Local Authorities, with Reference, Notes, and Index.* London: Butterworth & Co.
- Rheinhardt, C., and Thomson, D.** *A Handbook on the Open-Air Treatment and Life in an Open-Air Sanatorium, 2nd Edition enlarged.* London: John Bale, Sons & Danielsson, Ltd.
- Ross, R., F.R.C.S., D.P.H., F.R.S.** *Malarial Fever, its Causes, Prevention, and Treatment.* London: Longmans, Green & Co.
- Scholefield, J., Barrister, and Hill, G. R., M.A., Barrister.** *The Private Street Works Act, 1892: Being a Practical Guide to the Working of the Act.* London: Butterworth & Co.
- Schwarz, Oscar, M.D.** *Public Abattoirs and Cattle Markets* Edited from the German by G. T. Harrop, A.M.I.C.E., M.I.M.E., and M. Douglas London, A.M.I.M.E. London: Ice and Cold Storage Publishing Co., Ltd.
- Sedgwick, W. T., Ph.D.** *Principles of Sanitary Science and the Public Health, with Special Reference to the Causation and Prevention of Infectious Diseases.* London: Macmillan & Co.

- Skin, A. E., B.Sc. (Hon.), L.R.C.P., and Lyster, R. A., M.B., B.Ch., B.Sc., D.P.H.** Advanced Hygiene: for the Advanced Examination of the Board of Education. London: W. B. Clive.
- Wallace, J., M.A., M.D.** Small Pox: How it is Spread, and How it may be prevented. London: H. J. Glaisher.
- Whitelaw, J. Jun., A.M.Inst.C.E.** Surveying as Practised by Civil Engineers and Surveyors. London: Crosby, Lockwood & Son.

THE FOLLOWING JOURNALS AND PERIODICALS HAVE
BEEN RECEIVED IN THE LIBRARY DURING 1902.

WEEKLY.

British Architect.	Lancet.
British Medical Journal.	La Gaceta des Obras Publicas.
Builder.	Local Government Chronicle.
Builders' Journal and Architectural Record.	Local Government Journal.
Contract Journal.	Municipal Journal of London.
Councillor and Guardian.	Nursing Record.
Domestic Engineering.	Public Health Engineer.
Engineering.	Sanitarisch-demographisches
Hardware Trades Journal, The.	Wochenbulletin der Schweiz.
Health.	Sanitary Record.
Illustrated Carpenter and Builder.	School Board for London Gazette.
Indian Engineering.	Surveyor and Municipal and
Industries and Iron.	County Engineer.
Journal d'Hygiène.	Universal Provider.
Journal of the Society of Arts.	Veterinary Record.

MONTHLY, &c.

Analyst.	Direzione Generale dell' Amministrazione Civile. Bollettino
Annales des Ponts et Chaussées.	Sanitario.
Architects' Magazine.	Engineering Magazine.
British Sanitarian.	Giornale della Reale Società Italiana d'Igiene.
Bulletin du service de santé et de l'Hygiène publique (Bruxelles).	Iowa Health Bulletin.
Bulletin de la Société des Ingénieurs et Architectes Sanitaires de France.	Journal of Hygiene.
Canada Educational Monthly.	Journal of the American Public Health Association.
Chicago Health Bulletin.	Journal of the Royal Institute of British Architects.
Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege.	Journal of the Royal Meteorological Society.

Journal of the Royal Statistical Society.	Proceedings of the Society for the Study of Inebriety.
Journal of the Sanitary Inspectors' Association.	Public Health.
Journal of Society of Chemical Industry.	Quarry, The.
Journal of State Medicine.	Registrar-General's Returns.
La Ingenieria.	England and Wales, Scotland, and Ireland. Weekly, Monthly, and Quarterly.
La Salute Pubblica (Perugia).	Revue d'Hygiène et de Police Sanitaire.
La Technologie Sanitaire.	Sanitarian (New York).
Le Génie Sanitaire.	Sei-i-Kwai Medical Journal.
Le Mois scientifique et industriel.	Société d'Hygiène de l'Enfance
Master Builders Associations' Journal.	Bulletin Mensuel.
Medical Magazine.	Surveyor's Institution, Transactions of.
Medical Temperance Review.	Tablettes Mensuelles de la Société Royale de Médecine publique.
Meteorological Record.	Technology Quarterly and Proceedings of the Society of Arts (Massachusetts).
Museums Journal, The.	The Sanitary Inspector.
New York State Board of Health Monthly Bulletin.	Tuberculosis.
North of England Institute of Mining and Mechanical Engineers' Transactions.	Water.
Plumber and Decorator.	

EXHIBITS ADDED TO THE MUSEUM.

OCTOBER TO DECEMBER, 1902.

Model of Newcastle Sterilizer, for disinfecting excreta of Cholera, Enteric Fever, etc.	<i>H. E. Armstrong, D.Hy.</i>
Specimen of British Opal Wall Covering.	<i>Adamant Co. Birmingham.</i>
Old Unglazed Earthenware Pipe and portion of Joint with wrought iron ring.	<i>Mr. Schlund, Woolwich.</i>
Two Old Wooden Water-pipes.	<i>Mr. Daniel Wilks.</i>
Expansion Socket for Lead Soil and Ventilating Pipes.	<i>J. Bonsor and Co., Briarion.</i>
Set of Gully Dredgers.	<i>George B. Wilson, Brierley.</i>
Drain Testing Machine.	<i>Robert Ravenor, Newbury, Berks.</i>
Set of Anatomical Lecture Diagrams.	<i>Bale, Son and Danielsson.</i>
Models of Baths, Lavatories, and Sinks.	<i>{ Doulton and Co.</i> <i>{ Cannon Iron Foundries Co.</i> <i>{ Shanks and Co.</i>

TRAINING OF SANITARY INSPECTORS.

In order to assist those candidates who propose to prepare themselves for the duties of a Sanitary Inspector, the Council of The Sanitary Institute have addressed a letter to the Sanitary Authorities in England, asking if they would grant facilities to suitable candidates for going round with the acting Inspector on some of his visits at certain convenient times, in order to gain a practical insight into the duties of a Sanitary Inspector.

It was thought that some arrangement of this kind would be advantageous to the Public Health service as well as to the Candidates themselves, because it would enable Sanitary Authorities, in making appointments, to select men who had already received some practical training before taking up their duties.

In response to this circular letter, the Authorities named in the following list have already replied that they are willing to grant the facilities under certain conditions.

Adlington U.D.C.
Annfield Plain.
Ardsley.
Barry.
Benwell and Fenham.
Bilston.
Blackburn.
Bolsover.
Bolton.
Bournemouth.
Bradfield.
Bromsgrove.
Brumby and Frodingham.
Burnley.
Bury.
Cardiff.
Colchester.
Connah's Quay.
Crick.
Croydon R.D.C.
Dalton-in-Furness.
Dorchester R.D.C.
Dudley.
Ebbw Vale.
Farnworth.
Foleshill.
Frome.

Gorton.
Greenwich.
Halifax.
Hanley.
Hanwell.
Heaton Moor.
Hereford.
Hesham.
Huddersfield.
Hunslet.
Hyde.
Kidderminster.
King's Norton and Northfield U.D.C.
Lancaster.
Leek.
Levenshulme.
Lichfield.
Little Hulton.
Liverpool.
Malling.
Newcastle.
Northampton.
Norton.
Ongar R.D.C.
Plymouth.
Rochdale.

Rugby B.D.C.
St. Albans.
St. Germans.
St. Thomas.
Sheffield.
South Shields.
Stanley.
Stockport.

Sunderland.
Tiverton.
Twickenham.
Warrington.
Wembley.
West Hartlepool.
Wolverhampton.

The conditions embody the following points, but vary in different towns:—

1. Each person desiring to avail himself of the facilities for study afforded by the Department (with the view of qualifying for an inspectorship) must satisfy the M.O.H. that he is a suitable candidate to enter for the examination, with a fair prospect of success when examined, and that he is a fit and proper person to act as a Sanitary Inspector when sufficiently instructed.

2. He must state at the outset the period during which he desires to study the work of an Inspector.

3. During the period of study he must place himself for not less than six hours weekly under the direction of the M.O.H. and the Inspector or Inspectors of the District in which he is to work, and these officers will arrange for his employment as far as possible in the capacity of a temporary assistant to the Inspector in the various duties the latter is called upon to perform.

4. At the end of his period of study he shall receive a letter stating the length of time he has devoted to the acquisition of practical knowledge of an Inspector's duties, and as far as possible the actual work at which he has assisted, or which has come under his observation.

Further information with respect to the arrangements will be published in the Journal, or can be obtained from the Office of the Institute.

GENERAL NOTES.

PROTECTION OF WATER SUPPLIES.—A joint deputation—representing the County Council Association, The Sanitary Institute, the Association of Water Works Engineers, and the Underground Water Preservation Association—waited upon the President of the Local Government Board on October 29th to urge the appointment of a Royal Commission to enquire into the question of the protection of sources of water supply in England and Wales, and into the existing state of the law on the subject. The Sanitary Institute was represented by Mr. A. Wynter Blyth (Chairman of Council), Major R. H. Firth, Mr. William Whitaker, F.R.S., F.G.S., Mr. J. E. Worth, M.Inst.C.E., and Mr. E. White Wallis (Secretary). Mr. Whittaker urged on behalf of The Sanitary Institute that if such an enquiry were held it should be a thorough one, that it should take up all sides of the question and that it should not be limited to public supplies, it should also consider private supplies.

Mr. Long in reply summarised the points urged by the deputation under three heads—pollution—waste—and water rights. The question of pollution at all events as regard rivers was he thought within the reference to a commission already sitting. With regard to waste he thought that some of the cases adduced were only of a temporary nature, and generally with reference to this part of the question the information he had was very meagre and would not justify him in asking that an enquiry into the waste should be included within the purview of a Royal Commission. The question of water rights and the provision of a proper supply of water were matters which were not in a satisfactory condition, and he would examine more completely into the whole question, assisted by the statements which had been made by the Deputation, and if satisfied that the case was one which ought to be presented to a Royal Commission, then to decide to appoint a commission or body to enquire into the question and to give them such a reference as would prevent them trespassing upon the ground of an existing commission, and which would at the same time secure that the whole question of the supply of water, and the general rights of water should be enquired into with a view of such legislation being introduced as may seem to them desirable.

ICE CREAM VENDORS.—The Corporation of the City of London have issued a series of regulations to be observed by persons being manufacturers of, or dealers in ice creams, or other similar commodity within the City of London.

The regulations provide for the sanitation of the premises—the cleanliness of the utensils used—the wholesomeness of the material—the regulation of the process of manufacture—and precautions against infectious disease.

UNDERGROUND BAKEHOUSES.—With a view to securing uniformity of action in carrying out the provisions of the Factory and Workshops Act, 1901, with regard to underground bakehouses the Society of Medical Officers of Health have drawn up a series of requirements which they consider should be fulfilled.

These requirements which the council have set out in some detail deal with

- (a) Construction.
- (b) Light.
- (c) Ventilation.
- (d) All other respects, including arrangements for washing and the fittings of the bakehouse and general arrangements.

Among other things it is suggested that the height of the bakehouse should be 8 ft. or 8 ft. 6 in. and that it should have a cubic capacity of not less than 1,500 ft. That the daylighting should be sufficient to enable an Act of Parliament to be read in any part of the bakehouse between the hours of 11 a.m. and 3 p.m., and that 3,000 cubic feet of air per hour should be supplied for each person employed.

The Society have also expressed an opinion that By-laws should be framed for regulating the conduct of the business of bakehouses, restaurants, and all other places where cooked food is prepared.

PARKES MUSEUM NEW BUILDING AND ENDOWMENT FUND.

PRELIMINARY LIST OF DONATIONS.

Amounts already reported :

					£	s.	d.
Capital allotted	..	..	..	..	7,000	0	0
Vice-Presidents	..	..	..	..	258	0	0
Members of Council	..	..	..	..	95	6	0
Members and others	..	..	..	..	621	9	6
<i>To the Douglas Galton Gallery</i>	..	..	..	..	145	10	0
					<hr/> £8,120 5 6 <hr/>		

RECENT PUBLICATIONS

BY

P. S. KING & SON,

2 & 4 Great Smith Street, Westminster.

THE SANITARY INSPECTOR'S GUIDE.

A Text-book on the Public Health Act, 1875, and the Public Health Acts Amendment Act, 1890, so far as they affect the Inspector of Nuisances.

By H. LEMMOIN-CANNON, *Professional Associate Surveyors' Institution; Associate, Sanitary Institute, &c., &c.* Cr. 8vo, cloth, 256 pp. 3s. 6d. net.

British Medical Journal.—"The author, Mr. H. Lemmoïn-Cannon, a professional Associate of the Surveyors' Institution and Associate of the Sanitary Institute, has set out very clearly the numerous sections of the Public Health Act, 1875, as well as of the Public Health Acts Amendment Act, 1890, so far as they affect the inspector of nuisances."

London Argus.—"The work is invaluable to all inspectors of nuisances, and should also prove serviceable to students preparing for examinations."

The Municipal Journal and Sanitary Record.—"The book must prove a valuable ally to the busy inspector, and the student who worries over the involved clauses of Acts of Parliament will find the volume of value when preparing for his examination."

PUBLIC HEALTH AND HOUSING.

The Influence of the Dwelling upon Health in Relation to the Changing Style of Habitation. By JOHN F. J. SYKES, M.D., D.Sc.(Edin.), *Medical Officer of Health, St. Pancras, &c.* 5s. net.

Athenæum.—"No one interested in any branch of philanthropic work in this country can afford to be ignorant of the question of the housing of the working classes, and an immense amount of valuable data on the subject is here presented in a convenient form. Few men in England have given as much work and thought to the matter as Dr. Sykes. He is an ardent, and at the same time, a reasonable reformer, and his explanation of how existing tenement houses may be so modified as to give the inhabitants "the opportunity of acquiring decent habits" is worthy of close attention by all municipal authorities, who, if they cannot "end," often do not think it worth while to "mend" insanitary areas."

SEWAGE WORKS ANALYSES.

By GILBERT J. FOWLER, M.Sc. (Vict.), F.I.C., *Superintendent and Chemist, Manchester Corporation Sewage Works.* Plates and Illustrations. Cr. 8vo., cloth. 6s. net.

The Manchester Corporation are now carrying out a scheme for the treatment of Manchester Sewage, which, when completed, will make their works the largest hitherto laid down on modern principles.

Journal of The Sanitary Institute.—"In view of the position of its author, and the useful work he has done, we have somewhat minutely criticised a volume that is likely to be widely read and used. It is handy, well printed, and interesting, and will be of considerable value."

Chemical News.—"The book is well and clearly written, and will be useful in laboratories where this class of work is undertaken; it is also adorned with a number of full-page plates, illustrating some of the special instruments employed in the work."

SOME FOOD DANGERS.

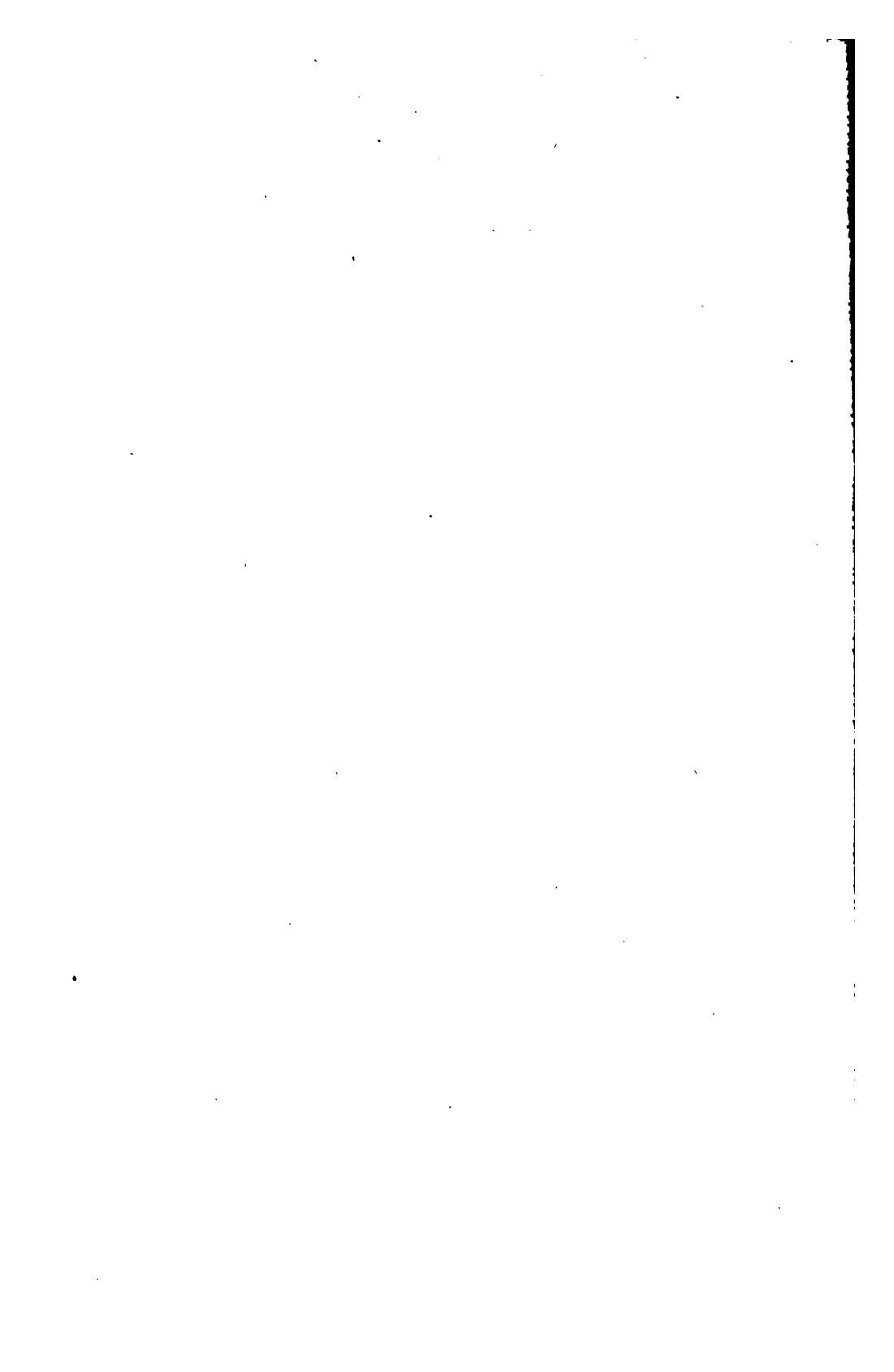
By Sir JAMES CRICHTON-BROWNE, M.D., LL.D., F.R.S. An Address delivered before the Sanitary Association, January, 1903. 6d. net. 100 copies, 35s.; 50 copies, 20s.

ECONOMIC DISPOSAL OF TOWN REFUSE.

A work dealing most exhaustively with the problem of Towns Refuse Disposal. Gives a description of the various types of Dust Destructors which have been erected, with results of their working. By W. FRANCIS GOODRICH, A.I.Mech.E. Demy 8vo, cloth, numerous Illustrations. 10s. 6d. net.

Public Health Engineer.—"A most valuable work of reference, as well as an instructive treatise on a most important branch of sanitary engineering. A book which no municipal engineer or cleansing superintendent can afford to be without."





PRELIMINARY PROGRAMME

OF THE

NINETEENTH CONGRESS

TO BE HELD AT

MANCHESTER,

From SEPTEMBER 9th to 13th, 1902.

THE
NINETEENTH CONGRESS, 1902,

WILL BE HELD AT

MANCHESTER,

From SEPTEMBER 9th to 13th.

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ADDRESSES AND LECTURES.

President's Inaugural Address.

Lecture to the Congress.

Popular Lecture.

SECTIONS.

A.—Section I. Sanitary Science and Preventive Medicine.

B.—Section II. Engineering and Architecture.

C.—Section III. Chemistry, Physics, and Biology.

CONFERENCES.

D.—Of Municipal Representatives.

E.—Of Port Sanitary Authorities.

F.—Of Medical Officers of Health.

G.—Of Engineers and Surveyors to County and other Sanitary Authorities.

H.—Of Veterinary Inspectors.

J.—Of Sanitary Inspectors.

K.—Of Ladies on Hygiene.

L.—On the Hygiene of School Life.

EXHIBITION.

An Exhibition of Apparatus and Appliances relating to Health and of Domestic use will be held in connection with the Congress.

PAPERS AND DISCUSSIONS.

The Council invite Papers on subjects relating to Health and Sanitary Science. Papers are limited to twenty minutes in reading. A short abstract must accompany every Paper, both for the convenience of the Press at the Congress and for insertion, subject to

the approval of the Council, in the Journal of the Institute, should it not be deemed desirable to publish the Paper *in extenso*. No previously published Paper can be read. The acceptance of Papers, and the days on which they are to be read, are determined by the Council before the beginning of the Meeting. The Council reserve the right of refusing any Papers sent in; and in the case of those accepted, the reading of them must depend on the time at the disposal of the Meeting. Papers read at the Congress cannot be published by the Authors, except by permission of the Council. The Council reserve to themselves the privilege of printing any Paper read at the Congress, either wholly or in part, or of refraining from the publication thereof, if they see fit.

The Addresses and Papers or Abstracts thereof are usually printed by the Institute in London before the meeting of the Congress, and copies can be obtained in the Reception Room. Authors should forward their manuscript by post *as early as possible, and in any case not later than August 9th*, addressed to the Secretary, Sanitary Institute, Margaret Street, London, W.

RECEPTION ROOM AND PLACES OF MEETING.

A Reception Room will be opened at THE OWENS COLLEGE, on MONDAY, SEPTEMBER 8TH, at 12 NOON, and on the following days at 9 AM., for the issue of all Tickets in connection with the Congress. The Reception Room will be available for Reading, Writing, and Conversation.

The Inaugural Address of the President and the Lecture to the Congress will be given in THE WHITWORTH HALL, OWENS COLLEGE.

The Sectional Meetings, General Meetings, and Conferences will be held in THE OWENS COLLEGE and THE MUNICIPAL SCHOOL OF TECHNOLOGY.

The Popular Lecture will be given in THE MUNICIPAL SCHOOL OF TECHNOLOGY.

HOTEL AND LODGING ACCOMMODATION, AND TRAVELLING ARRANGEMENTS

Will be determined by the Local Committee, and information relating to the same may be obtained from the Local Secretary, and from the Secretary of the Institute.

TICKETS.

Fellows, Members, and Associates of the Institute, are supplied with Tickets for the Congress on application to the Secretary before the Congress, or may be obtained at the Reception Room during the Meeting.

To those not connected with the Institute, Congress Tickets will be issued, entitling the holder to the use of the Reception Room, to

admission to the Presidential and other Addresses, to all Meetings, to the Exhibition of the Institute, to any *Conversazione* given by the Institute, and copies of the Quarterly Journal of the Institute containing the proceedings of the Congress. The price of the Congress Tickets is One Guinea each. These Tickets may be obtained at the Office of the Local Secretary at THE MUNICIPAL SCHOOL OF TECHNOLOGY, Sackville Street, Manchester, or at the Offices of THE INSTITUTE, 72, Margaret Street, London, W.

EXCURSIONS.

Particulars of these will be published in the local Programme, and Tickets and List of Places to be visited can be obtained at the Reception Room during the Meeting.

RAILWAY ARRANGEMENTS.

The Railway Companies have decided to issue return Tickets to Manchester at a single fare and a quarter, available from September 6th to 15th inclusive. Certificates necessary to obtain this reduction will be supplied with Congress Tickets.

During the meeting, return Tickets at a single fare and a quarter for the double journey will be issued to members of the Congress, on production of their Congress Tickets, from Manchester to stations not more than fifty miles distant—(minimum charge 1s.).

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 Architectural Association.
 Association for Promoting Compulsory Notification of Midwives.
 British Medical Association.
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 Central Veterinary Medical Society.
 Childhood Society.
 Church Sanitary Association.
 Civil and Mechanical Engineers' Society.
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 Eastern Counties Veterinary Medical Society.
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Proceedings of the Congress and Officers of Sections and Conferences.

Inaugural Address to the Congress

By THE RT. HONBLE. THE EARL EGERTON OF TATTON.

Conversazione and Reception

Lecture to the Congress on "The Treatment of Smoke: a Sanitary Parallel."

By W. N. SHAW, M.A., D.Sc., F.R.S.

Popular Lecture on "The Man *versus* The Germ."

By SIR W. J. COLLINS, M.D., B.Sc., F.R.C.S., D.L., J.P.

For time and places of Meetings see page 20.

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JAS. DEAS, A.M.I.C.E., Water Engineer, Warrington.

T. DE COUBOU MEADE, M.I.C.E., City Engineer and Surveyor, Manchester.

J. ELY, F.R.I.B.A.

A. M. FOWLER, M.I.C.E., F.S.I.

Prof. J. GOODMAN, M.I.C.E., M.I.M.E.

J. HAYNES, Water Engineer, Manchester.

R. P. HIRST, A.M.I.C.E., Borough Engineer, Southport.

JOHN HOLDEN, F.R.I.B.A., F.S.I.

J. J. LACKLAND, A.M.I.C.E., Water Engineer, St. Helens.

T. LONGDIN, A.M.I.C.E., Borough Engineer and Surveyor, Warrington.

JAMES LORD, A.M.I.C.E., Borough Engineer, Halifax.

T. MOLYNEUX, Engineer, Water-Works, Stockport.

C. L. MORGAN, A.M.I.C.E., Borough Engineer and Surveyor, Bolton.

J. C. MOUNT, A.M.I.C.E.

CHAS. E. NEWTON, M.I.C.E., F.G.S.

W. J. NEWTON, A.M.I.C.E., Borough Engineer and Surveyor, Accrington.

J. T. NICHOLSON, D.S.C., M.I.C.E.

J. PARRY, M.I.C.E., Water Engineer, Liverpool.

J. A. PASKIN, M.I.C.E., Water Engineer, Halifax.

S. A. PICKERING, A.M.I.C.E., Borough Surveyor, Oldham.

S. SYDNEY PLATT, M.I.C.E., Borough Surveyor, Rochdale.

E. SALOMANS, F.R.I.B.A.

W. C. SCOTT, Engineer to Cheshire Lines Committee.

H. S. HELE SHAW, LL.D., F.R.S., M.I.C.E.

T. SHELMERDINE, M.I.C.E.

F. BENNET SMITH, F.R.I.B.A.

H. STANNUS, F.R.I.B.A.

W. STUBBS, A.M.I.C.E., Borough Engineer, Blackburn.

R. H. SWINDLEHURST, M.I.C.E., Water Engineer, Bolton.

G. H. WILLOUGHBY, F.R.I.B.A.

W. WINDSOR.

J. B. WOLFENDEN, A.M.I.C.E., Borough Surveyor, Bootle.

F. H. WOODHOUSE, F.R.I.B.A.

W. B. WORTHINGTON, Engineer to Lancashire and Yorkshire Railway Co.

Hon. Secretaries.

PAUL OGDEN, F.R.I.B.A., Manchester.

PROF. J. RADCLIFFE, F.R.MET.SOC., Manchester.

Hon. Recording Secretary.

JOHN EDWARD WORTH, M.INST.C.E., London.

C.—Section III. "Physics, Chemistry, and Biology."

*September 11th and 12th, to be held in THE HISTORY THEATRE,
OWENS COLLEGE.*

President.

PROF. A. SHEPIDAN DELÉPINE, M.B., C.M., B.S.C.

Vice-Presidents.

J. CARTER REIL, A.R.S.M.

CHAS. ESTCOURT, F.I.C., F.G.S.

Prof. S. J. HICKSON, D.S.C., F.R.S.

Prof. E. KNECHT, PH.D., F.I.C.

Prof. W. H. PERKIN, F.R.S.

Prof. W. POPE, F.R.S.

Prof. A. SCHUSTER, PH.D., F.R.S.

FRANK SCUDDER, F.I.C.

W. N. SHAW, M.A., D.S.C., F.R.S.

Prof. W. STROUD, D.S.C.

Prof. L. B. WILBERFORCE, M.A.

Hon. Secretaries.

GILBERT FOWLER, M.S.C., Urmston. | COUNC. H. GRIMSHAW, Manchester.

PRINCIPAL WM. WILSON, M.A., Salford.

Hon. Recording Secretary.

BUSHELL ANNINGSOON, M.A., M.D., Cambridge.

CONFERENCES.

D.—Of Municipal Representatives.

Wednesday, September 10th, to be held in THE LARGE HALL, MUNICIPAL SCHOOL OF TECHNOLOGY.

President.

ALDERMAN ALEX. McDUGALL, J.P.

Vice-Presidents.

The Rt. Hon. The **EARL OF DERBY, K.G.**,
Mayor of Preston.
Rt. Hon. **Ald. A. E. BUTLER**, Lord Mayor of
Leeds.
Rt. Hon. **Ald. CHAS. PETRIE**, Lord Mayor
of Liverpool.
The Rt. Hon. **Sir J. T. HIBBERT, K.C.B.**, Chair-
man of Lancashire County Council.
Col. **GEO. DIXON**, Chairman of Cheshire
County Council.
C. E. MILES-GASKELL, J.P., Chairman of
West Riding (Yorkshire) County Council.
Sir W. H. HORNEY, Bart., M.P., Mayor of
Blackburn.
Counc. **J. BATTERSBY**, Mayor of Bury.
Ald. WM. BREAR, Mayor of Halifax.
Counc. **G. T. BROWN**, Mayor of Chorley.
H. SLADE CHILDE, Mayor of Wakefield.
Counc. **JAMES CUNLIFFE**, Mayor of Ac-
crington.
Ald. JAMES ECKERSLEY, Mayor of Oldham.
Ald. J. G. FROST, Mayor of Chester.
Ald. W. WINWOOD GOSSAGE, Mayor of
Widnes.
Ald. ALF. R. J. GREENOUGH, Mayor of
Leigh.
Counc. **B. INGLIS HALL**, Mayor of Lan-
caster.
Counc. **HAZELHURST**, Mayor of Birken-
head.
Counc. **S. E. HIRST**, Mayor of Brighouse.
Counc. **W. JACKSON**, Mayor of Nelson.

Counc. **ALBERT JOHNSON**, Mayor of
Stockport.
Ald. W. D. KENDALL, Mayor of Eccles.
Counc. **WM. CHAS. LUPTON**, Mayor of
Bradford.
Ald. J. H. MADEN, Mayor of Bacup.
Ald. J. MILES, Mayor of Bolton.
Ald. WM. McNEILL, Mayor of Crewe.
Ald. WM. ORMEROD, Mayor of Todmorden.
J. CHARLTON PARR, Mayor of Warrington.
Counc. **W. W. PILKINGTON**, Mayor of
St. Helens.
Counc. **T. POPPLE**, Mayor of Heywood.
Counc. **JOS. BOOTHBY POWNALL**, Mayor
of Ashton-under-Lyne.
Ald. S. RUDMAN, Mayor of Salford.
CHAS. SCARISBRICK, Mayor of Southport.
Counc. **J. J. SCHOFIELD**, Mayor of Middle-
ton.
Ald. ALLWOOD SIMPSON, Mayor of Staly-
bridge.
Counc. **G. A. SMITH**, Mayor of Haslingden.
Counc. **J. P. SMITH**, Mayor of Barrow-in-
Furness.
Ald. THOS. THORNBUR, Mayor of Burnley.
Counc. **J. TOMLINSON**, Mayor of Darwen.
Ald. TRICKETT, Mayor of Rawtenstall.
Counc. **S. TURNER**, Mayor of Rochdale.
Counc. **G. S. WILDE, M.D.**, Mayor of Bootle.
Counc. **W. E. WOOD**, Mayor of Dukinfield.
Ald. E. WOODHEAD, M.A., Mayor of Hud-
dersfield.

Hon. Secretaries.

COUNCILLOR BROCKLEHURST, M.A., Manchester.
PROF. J. RADCLIFFE, F.R.MET.SOC., Manchester.

Hon. Recording Secretary.

PHILIP BOOBYER, M.B., Nottingham.

This Conference is open to all Members and Officials of Municipal Bodies.

E.—Of Port Sanitary Authorities.

Wednesday, September 10th, to be held in THE ENGINEERING LECTURE ROOM, MUNICIPAL SCHOOL OF TECHNOLOGY.

President.

ALDERMAN WALTON SMITH, J.P., Chairman, Manchester Port Sanitary Authority.

Vice-Presidents.

D. W. BROWN, M.D., M.B.C.S., Chairman of Port Sanitary Authority, Preston.	E. W. HOPE, M.D., D.Sc., Medical Officer Port Sanitary Authority, Liverpool.
Ald. THOMAS CLARKE, M.D., J.P., Chairman of Port Sanitary Authority, Liverpool.	E. B. PIOMERE, Clerk, Port Sanitary Authority, Liverpool.
J. D. FAUSSET, M.D., Medical Officer, Port Sanitary Authority, Fleetwood.	H. O. PILKINGTON, M.B.C.S., L.S.A., Medical Officer, Port Sanitary Authority, Preston.
A. HOLMES, Clerk, Port Sanitary Authority, Manchester.	J. SETTLE, L.R.C.P., L.R.C.S., Medical Officer Port Sanitary Authority, Barrow.

Hon. Secretaries.

COUNCILLOR F. DEARDEN, M.B.C.S., D.P.H., Manchester.
A. M. N. PRINGLE, M.B., D.P.H., Salford.

Hon. Recording Secretary.

W. COLLINGBRIDGE, M.A., M.D., L.L.M., D.P.H., London.

This Conference is open to all Members and Officials of Port Sanitary Authorities.

F.—Of Medical Officers of Health.

Wednesday, September 10th, to be held in THE CHEMICAL THEATRE, OWENS COLLEGE.

President.

JAMES NIVEN, M.A., M.B.

Vice-Presidents.

S. BARWISE, M.D., M.B.C.S., D.P.H.	GEO. A. KENYON, M.B., M.B.C.S., L.R.C.P.
W. N. BARLOW, M.B.C.S., L.R.C.P., D.P.H.	J. T. NEECH, M.D., D.P.H.
WM. BERRY, F.R.C.S.I., D.P.H.	G. R. PARKER, M.B.C.S., L.R.C.P.
A. E. BRINDLEY, M.B., B.Sc., D.P.H.	H. O. PILKINGTON, M.B.C.S., L.S.A.
F. J. H. COUTTS, M.D., D.P.H., F.C.S.	E. SERGEANT, M.B.C.S., D.P.H.
J. G. GOBNALL, M.A., M.B., D.P.H.	J. SETTLE, L.R.C.P., L.R.C.S.
J. E. GOULD, M.D., D.P.H., M.B.C.S., L.R.C.P.	R. SYDNEY MARSDEN, M.B., D.Sc., F.R.S.M., D.P.H.
A. GREENHALGH, M.B., D.P.H., M.B.C.S., L.R.C.P.	F. VACHER, F.R.C.S., M.B.C.P., F.C.S.
F. DREW HARRIS, M.B., M.B.C.S., D.P.H.	J. J. WEAVER, M.B.C.S., D.P.H.
J. HENRY, M.D., L.R.C.S.I.	J. B. WILKINSON, M.D., D.P.H.
E. W. HOPE, M.D., D.Sc.	MEREDITH YOUNG, M.D., D.P.H.
J. R. KAYE, M.B., D.P.H., F.C.S.	

Hon. Secretaries.

C. H. TATTERSALL, M.B.C.S., D.P.H., Salford.
J. WHEATLEY, M.D., D.P.H., Shrewsbury.

Hon. Recording Secretary.

HENRY KENWOOD, M.B., D.P.H., London.

This Conference is open to all Medical Officers of Health.

G.—Of Engineers and Surveyors to County and other Sanitary Authorities.

*Wednesday, September 10th, to be held in THE CHEMICAL LECTURE
THEATRE, MUNICIPAL SCHOOL OF TECHNOLOGY.*

President.

CHAS. JONES, M.INST.C.E.

Vice-Presidents.

J. ATKINSON, A.M.I.C.E.
W. BOLTON.
A. W. BRADLEY, A.M.I.C.E.
J. S. BRODIE, A.M.I.C.E.
G. J. C. BROOM, A.M.I.C.E.
C. BROWNBRIDGE, A.M.I.C.E.
J. CORBETT.
J. DEAS, A.M.I.C.E.
T. De COUBOY MEADE, M.I.C.E.
J. HAYNES.
B. P. HIRST, A.M.I.C.E.
J. J. LACKLAND, A.M.I.C.E.
T. LONGDIN.

J. LORD, A.M.I.C.E.
T. MOLYNEUX.
E. L. MORRIS, A.M.I.C.E.
J. C. MOUNT, A.M.I.C.E.
W. J. NEWTON, A.M.I.C.E.
J. PARRY, M.I.C.E.
J. PASKIN, M.I.C.E.
S. A. PICKERING, A.M.I.C.E.
S. S. PLATT, M.I.C.E.
T. SHELMEKDINE.
W. STUBBS, A.M.I.C.E.
R. H. SWINDLEHURST, M.I.C.E.
E. J. WOLFENDEN, A.M.I.C.E.

Hon. Secretaries.

J. T. HALL, Salford.

N. L. SMYTHE, Oldham.

Hon. Recording Secretary.

E. G. MAWBRY, M.INST.C.E., Leicester.

This Conference is open to all Municipal and County Engineers.

H.—Of Veterinary Inspectors.

*Wednesday, September 10th, to be held in THE HISTORY THEATRE,
OWENS COLLEGE.*

President.

W. AUGUSTUS TAYLOR, F.R.C.V.S.

Vice-Presidents

COUNC. T. C. ABBOTT.
JOS. H. CARTER, F.R.C.V.S.
J. A. DIXON, M.R.C.V.S.
COUNC. J. FILDES.
M. T. GIBLIN, M.R.C.V.S.
A. HOLBURN, M.R.C.V.S.
T. EATON JONES, M.R.C.V.S.
J. LAITHWOOD, F.R.C.V.S.
ALEX. LAWSON, J.P., M.R.C.V.S.
J. S. LLOYD, M.R.C.V.S.

S. LOCKE, M.R.C.V.S.
Ald. MOULABE.
J. MCKINNA, F.R.C.V.S.
A. MASON, F.R.C.V.S.
Ald. READE.
W. G. SCHOFIELD, M.R.C.V.S.
F. SOMERS, M.R.C.V.S.
J. M. STIRLING, M.R.C.V.S.
W. WOODS, F.R.C.V.S.

Hon. Secretaries.

J. W. BRITTLEBANK, Manchester.

J. B. WOLSTENHOLM, F.R.C.V.S., Manchester.

Hon. Recording Secretary.

W. HUNTING, F.R.C.V.S., London.

This Conference is open to all Members of the Veterinary Profession.

J.—Of Sanitary Inspectors.

Wednesday, September 10th, to be held in THE SCIENTIFIC SOCIETIES' ROOM, MUNICIPAL SCHOOL OF TECHNOLOGY.

President.

W. BLAND, Inspector of Nuisances, Barton-upon-Irwell.

Vice-Presidents.

WM. BRIGGS, Chairman of the Health Committee, Derbyshire.	Counc. H. KENNEDY, Chairman of the Health Committee, Southport.
Counc. D. W. BROWN, Chairman of the Health Committee, Preston.	Ald. JOHN PARKS, M.D., Chairman of the Health Committee, Bury.
Ald. B. CAIN, Chairman of the Health Committee, Bootle.	Ald. J. PHILLIPS, Wigan.
Ald. T. CLARKE, M.D., J.P., Chairman of the Health Committee, Liverpool.	H. PRESCOTT, Manager, House Drainage Department, Manchester.
Ald. J. F. COE, J.P., Chairman of the Health Committee, Halifax.	Ald. J. MILSON RHODES, M.D.
Ald. WM. DICKINSON, J.P., Chairman of the Health Committee, Burnley.	J. ROBERTS, M.D., J.C., Chairman of the Health Committee, Chester.
Counc. T. ELLIS, Chairman of the Health Committee, Stockport.	A. T. BOOK, Superintendent of the Sanitary Department, Manchester.
Ald. JOHN FORSTER, Chairman of the Health Committee, St. Helens.	Ald. A. SIMISTER, Chairman of the Health Committee, Oldham.
Ald. GETLEY, J.P., Chairman of the Health Committee, Birkenhead.	Ald. THOMAS HOULDSWORTH SMITH, J.P., Chairman of the Health Committee, Blackpool.
Ald. WM. HARDMAN, J.P., Chairman of the Health Committee, Rochdale.	Ald. WALTON SMITH, Chairman of the Health Committee, Manchester.
Ald. DAVID BASIL HEWITT, J.P., Chairman of the Health Committee, Cheshire C.O.	Ald. H. SUGDEN, Chairman of the Health Committee, Yorkshire County Council.
Counc. O. HUDDART, J.P., Chairman of the Health Committee, Salford.	Ald. T. H. SUTTON, Chairman of the Health Committee, Warrington.
	Rev. J. F. TRISTRAM, M.A., B.Sc.

Hon. Secretaries.

C. B. BILLINGHAM, Stockport.	J. SUMNER, Wigan.
J. A. K. COOPER, Manchester.	T. WHITELEY, Rochdale.

Hon. Recording Secretary.

ALBERT TAYLOR, London.

This Conference is open to all Sanitary Inspectors and Inspectors of Nuisances.

K.—Of Ladies on Hygiene.

Wednesday, September 10th, to be held in THE LADIES' DEPARTMENT OWENS COLLEGE.

President.

Mrs. W. O. MEEK.

Vice-Presidents.

Hon. Secretaries

Hon. Recording Secretary.

MISS N. T. F. DE CHAUMONT, London.

This Conference is open to all Ladies interested in Hygiene.

L.—On The Hygiene of School Life.

*Wednesday, September 10th, to be held in THE OLD PHYSICS THEATRE,
OWENS COLLEGE.*

President.

PROFESSOR C. S. SHERRINGTON, M.A., M.D.CAMB., F.R.S.

Vice-Presidents.

W. ASCOUGH, Clerk, School Board, Scarborough.
Dr. J. BARKER, Chairman, School Board, Todmorden.
E. BARLOW, Clerk, School Board, Walmsley.
S. G. BIBBY, Clerk, School Board, Dewsbury.
Rev. J. G. BIRD, Chairman, School Board, Stalybridge.
Captain E. T. O. BOWER, Chairman, School Board, Scarborough.
W. BRETHERICK, Clerk, School Board, Darwen.
Rev. Dr. B. BRUCE, Chairman, School Board, Huddersfield.
Miss S. A. BURSTALL, B.A., Head Mistress, Manchester High School for Girls.
Rev. T. CAIN, Chairman, School Board, Walmsley.
W. CLARIDGE, Chairman, School Board, Bradford.
G. T. COCKBURN, Chairman, School Board, Leeds.
Rev. G. COE, Chairman, School Board, Blackburn.
G. J. COOMBES, Clerk, School Board, Poulton Cum.
W. H. CORBRIDGE, Clerk, School Board, Rotherham.
RICHARD COCKER, Chairman, School Board, Rotherham.
Rev. E. F. CROSSE, Chairman, School Board, Barrow.
R. H. CROWLEY, M.D., M.B.C.P., Medical Officer, School Board, Bradford.
Rev. Canon J. W. CUNDEY, Chairman, School Board, Bolton.
O. DUTHIE, Clerk, School Board, Salford.
J. W. FRASER, M.D., Medical Officer, School Board, Hull.
Lt.-Col. H. FISHWICK, Chairman, School Board, Rochdale.
T. GARBUTT, Clerk, School Board, Bradford.
G. GAUNT, Clerk, School Board, Huddersfield.
E. M. HANCE, Clerk, School Board, Liverpool.
T. HODDER, Clerk, School Board, Hanley.
T. H. HUNT, M.D., Medical Officer, School Board, Halifax.
W. HUTCHINSON, Clerk, School Board, Barrow.
Rev. D. R. JAMES, Chairman, School Board, Dukinfield.
A. J. JEFFERSON, M.D., Medical Officer, School Board, Rochdale.
E. JONES, Clerk, School Board, Burnley.

T. KERR, M.A., M.D., D.P.H., Medical Officer, Board School, London.
† KNIGHT, Clerk, School Board, Bolton.
Rev. E. A. LAWRENCE, Chairman, School Board, Halifax.
W. R. LOCKING, Chairman, School Board, Hull.
Very Rev. E. O. MACLURE, D.D., School Board, Manchester.
T. H. MOON, Clerk, School Board, Handsworth.
J. MOORHOUSE, Clerk, Dukinfield School Board.
C. J. O'DONOGHUE, Clerk, School Board, Hull.
LADY O'HOGAN, Chairman, School Board, Burnley.
W. H. OSTLER, Clerk, School Board, Halifax.
W. PACKER, Clerk, School Board, Leeds.
A. R. PICKLES, B.A., M.U.T., Burnley.
Rev. W. G. PROCTOR, Chairman, School Board, Darwen.
G. S. PULLON, M.D., J.P., Medical Officer, School Board, Darwen.
J. H. OWSON RAY, M.B., F.R.C.S., Medical Officer, School Board, Salford.
B. H. READ, Chairman, School Board, Hanley.
J. RENNIE, Clerk, School Board, Oldham.
A. B. RITCHIE, M.B., Medical Officer, School Board, Manchester.
Rev. Canon BOUNTREE, Chairman, School Board, Oldham.
Rev. Canon SCOTT, Chairman, Board School, Salford.
GEO. SHARPLES, M.U.T., Manchester.
W. SHAWCROSS, B.A., M.U.T., Manchester.
J. W. SIMISTER, Clerk, School Board, Stalybridge.
F. E. SIMPSON, Chairman, School Board, Rawtenstall.
B. SPEDDING, Chairman, School Board, Dewsbury.
N. TAYLOR, Clerk, School Board, Blackburn.
Rev. Canon R. J. WEATHERHEAD, Chairman, School Board, Poulton Cum.
G. H. WHEELER, Clerk, School Board, Rochdale.
A. A. WHITEHEAD, Clerk, School Board, Rawtenstall.
J. WHITEHEAD, Clerk, School Board, Todmorden.
H. D. WILSON, Clerk, School Board, Lancaster.
T. WOODHOUSE, Clerk, School Board, Dukinfield.
JOHN WRIGHT, Esq., M.U.T., Liverpool.
C. H. WYATT, Clerk, School Board, Manchester.

Hon. Secretaries.

J. SCOTSON, M.Sc., Manchester.

Wm. WARDALE, Old Trafford.

Hon. Recording Secretary.

CHRISTOPHER CHILDS, M.A. M.D., D.P.H. London.

This Conference is open to all interested in the subject.

Order of Proceedings.

TUESDAY, SEPTEMBER 9TH.

12.30 p.m.—Reception of the Members of the Congress in

1.30 p.m.—Public Luncheon in the Grand Hotel (Tickets 4/6).

3 p.m.—Opening of the Health Exhibition in St. James's Hall.

8 p.m.—Inaugural Address to the Congress in The Whitworth Hall,
Owens College.

WEDNESDAY, SEPTEMBER 10TH.

9.30 a.m. to 2 p.m.—Conferences in The Owens College and The
Municipal School of Technology. (*See pages 13-19*).

8.30 p.m.—Lecture to the Congress in The Whitworth Hall,
Owens College.

THURSDAY, SEPTEMBER 11TH.

10 a.m. to 2 p.m.—Meetings of Section I. (*See pages 13-19*).—Sanitary
Science and Preventive Medicine. Section II.—Engineering
and Architecture. Section III.—Physics, Chemistry, and Biology.
In The Owens College and The Municipal School of Technology.
Presidents' Addresses, Papers, and Discussions.

8.30 p.m.—Conversazione and Reception in
by

FRIDAY, SEPTEMBER 12TH.

10 a.m. to 2 p.m.—Meetings of Section I.—Sanitary Science and Pre
ventive Medicine. Section II.—Engineering and Architecture.
Section III.—Physics, Chemistry, and Biology. In The Owens
College and The Municipal School of Technology.

1.30 p.m.—Closing Meeting of the Congress in The Owens College.

8.30 p.m.—Popular Lecture in The Municipal School of Technology.

SATURDAY, SEPTEMBER 13TH.

Excursions.

Excursions and Visits to places of interest will be made during
the Congress (*see page 21*).

EXCURSIONS AND VISITS.

Arrangements have been made to inspect the following Works of the Manchester Corporation :

The Monsall Hospital, Ambulance Station, Small-pox Hospital, Reference and other Libraries, Manchester High School for Girls, Public Baths and Wash-houses, Cleansing Department Works, Yards of the Highways and Paving Department, Chief Fire Station, when a general turn-out and exhibition of escape and jumping-sheet drill will be given, Sewage Purification Works, Artisan Labourers' Dwelling Houses, Model Lodging Houses, Electricity Works, Gas Works, Hydraulic Power Station, The Manchester Water Works at Woodhead and Thirlmere, and the following Works of the Salford Corporation :—

The Sewage Purification Works, Cattle Market, Gas Works, Chief Fire Station, The Central Car Depot of the Tramways Department, Electricity Works, Royal Museum and Library, Peel Park, Royal Technical Institute, Model Lodging Houses, The Ladywell Sanatorium, Small-pox Hospital, Artisans' Dwellings.

To other places :—Lancashire and Yorkshire Railway Company's Engineering Works, The Reservoirs and Filtration Works of the Liverpool Corporation at Rivington, The John Rylands Library, Manchester, The Manchester Crematorium, The Ship Canal, Port Sunlight, the Works of the United Alkali Co. at Widnes; Buxton, Haddon Hall, and Chatsworth.

Arrangements have been made for conducted Cycle Excursions to places of interest about Manchester.

Further particulars will be given in future programmes.

SUBJECTS SUGGESTED FOR DISCUSSIONS OR PAPERS.

Labourers' Dwellings.
Municipal Lodging Houses.
Cottages for Agricultural Labourers.

Public Slaughter-Houses.
Control and Inspection of Imported Meat.
Guarantees for the Purity of Milk Supplies.
Diseases of Animals Conveyed by Milk.
Preservatives in Butter and Milk.

Difficulties of Dealing with Tuberculosis in Cattle.
Recognition and Isolation of Pulmonary Tuberculosis.
The Construction of the Sanatoria for Tuberculosis.

Tropical Diseases.
Precautions against the Importation of Plague into Europe.
Precautions against the Importation of Infectious Maladies from Abroad.
The Dealing with "Contacts" in the case of Small-pox.
Improvements in the Methods and Practice of Disinfection.
Enteric Fever in Armies in the Field.
Vaccine Lymph.

Sanitation of Passenger Ships.
Isolation Hospitals.

Drainage of Buildings possessing no Open Space.
Ventilation of Sewers.
Biological Purification of Sewage.
Chemical Purification of Sewage.
Standards of Purity for Sewage Effluents.
Purification of Trade Effluents.
Disposal of Towns Refuse.
Smoke Abatement.
The Sanitation of Road Traffic.

Village Water Supplies.
The Collection and Storage of Flood-Waters and the Purification of such Waters.

Practical Hygiene Teaching in Schools.
Care of the Eyes of School Children.
Infantile Mortality in England and its Reduction.
Health Aspects of Occupations for Women.
Work of Women Health Missioners.
The Value to Teachers of Recognised Certificates in Hygiene.
The Church's Duty in respect to Sanitation.
Lead Poisoning in the Pottery Manufacture.
Granting of Sanitary Certificates by Sanitary Authorities.
Teaching of Sanitation in Municipal Technical Schools.
The Provision of Cheap Dining Rooms for Work Girls.

A Discussion will be arranged on "The Prevention of Tuberculosis; from the Clinical, Municipal, and Veterinary points of view, and as to the Provision of Public and Private Sanatoria."

